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A Dollar Cost Comparison of Soviet and US Defense Activities 1968-78

An Intelligence Assessment

DIA review
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A Dollar Cost Comparison of Soviet and US Defense Activities 1968-78

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An Intelligence Assessment

*Information available as of 20 August 1979 has been used
in the preparation of this report.*

This assessment was prepared by [redacted]
[redacted] of the Military-Economic Analysis Center,
Office of Strategic Research, and coordinated with
the National Intelligence Officers for General
Purpose Forces, Political-Economy, Strategic
Programs, and USSR/Eastern Europe. Comments
and queries are welcome and may be directed to
[redacted]

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Key Judgments

This publication is a classified supplement to an unclassified paper issued under the same title in January 1979. The key judgments are essentially the same as those in the earlier paper. [redacted]

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The reader is cautioned that the dollar cost estimates used in this comparison of Soviet and US defense activities must be viewed in terms of the limitations and conceptual framework explained in the Introduction, pages 1-5. [redacted]

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Total Defense Program

For the 1968-78 period, the estimated cumulative dollar cost of Soviet defense activities (excluding pensions)—that is, the cost of reproducing them in the United States—exceeded cumulative US defense outlays by approximately 15 percent. Moreover, the trends of defense activities in the two countries were dissimilar.

- When expressed in constant 1978 US prices, the trend of the annual dollar costs of these Soviet activities was one of continuous growth throughout the period, averaging about 3 percent per year. Growth was evident in nearly all the major elements of the Soviet defense establishment.
- In contrast, US outlays in constant dollars declined continuously from 1968 to 1976 and then began growing slightly. The decline reflects reductions in nearly every major component since the Vietnam buildup in the sixties.

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As a result of these diverging trends, the estimated annual dollar costs of Soviet defense activities exceeded comparable US outlays by a widening margin in every year after 1971. For 1978 they were over \$145 billion—almost 50 percent higher than total US outlays.

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If costs for uniformed personnel are removed from both sides, US defense outlays and the estimated dollar costs of Soviet defense activities were approximately equal for the 1968-78 period. By 1978, however, the Soviet level was almost 35 percent higher than that of the United States.

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If costs of research, development, testing, and evaluation (RDT&E)—for which estimates are considerably less reliable than those for other Soviet activities—are subtracted from each side, the estimated Soviet figure for 1978 was about 45 percent higher than that for the United States. The Soviet cumulative total for the 11-year period was 10 percent higher than the corresponding US outlays

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Resource Category Comparisons***Investment***

The estimated cumulative dollar costs of reproducing Soviet military investment—the procurement of weapons and equipment (exclusive of RDT&E costs) and the construction of facilities—were 30 percent greater than comparable US outlays for the 1968-78 period. Estimated annual dollar costs of these Soviet activities exceeded annual US outlays in this area by an increasing margin from 1971 to 1976 and were about 80 percent greater in 1978.

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Operating

Annual US outlays for operating military forces exceeded the estimated annual dollar costs of operating Soviet forces until 1972. Since then, estimated Soviet costs have been higher, reflecting primarily the growth of Soviet manpower and the decline of US manpower. Over the period, estimated Soviet dollar costs were approximately equal to US outlays. For 1978, they were 30 percent above comparable US outlays.

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RDT&E

The estimated annual dollar costs of Soviet military RDT&E grew over the 1968-78 period, while annual US outlays in this category decreased until the last two years of the period. For the period as a whole, estimated Soviet dollar costs exceeded US outlays by about 25 percent. In 1978 they were almost twice as much as corresponding US outlays.

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Military Mission Comparisons***Strategic Attack Forces***

The estimated cumulative dollar costs of Soviet strategic attack programs for the 1968-78 period were more than twice comparable US outlays. The Soviet figure, however, includes a large peripheral attack force for which the United States has no direct counterpart. For intercontinental attack forces only, the estimated cumulative dollar costs of Soviet activities over the period were about 55 percent greater than comparable US outlays. In 1978 estimated Soviet costs for intercontinental attack forces were 45 percent greater.

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Strategic Defense Forces

For the 1968-78 period, the estimated cumulative dollar costs of Soviet strategic defense forces were almost seven times corresponding US outlays. In 1978 estimated Soviet costs were 20 times larger.

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General Purpose Forces

The estimated cumulative dollar costs of Soviet general purpose forces for the 1968-78 period were about 35 percent larger than comparable US outlays. Since 1970 the Soviet level has been higher than that of the United States—70 percent higher in 1978. [redacted]

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Support Forces

For the entire 1968-78 period US outlays for support forces—those forces intended to supply, train, and provide other services for the combat forces—were about one-third more than the estimated cumulative dollar costs of comparable Soviet activities. By 1978, however, the differential in this area had almost disappeared. [redacted]

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**A Dollar Cost Comparison of
Soviet and US Defense Activities
1968-78** [redacted]

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Introduction

Purpose

The military establishments of the Soviet Union and the United States are difficult to compare because they differ considerably as to missions, structure, and characteristics. Any common denominator used for comparative sizing is imperfect, and its limitations must be understood in interpreting such comparisons. The approach taken here is to compare the defense activities of the two countries in resource terms. The common denominator is dollar cost.

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This paper presents estimates of what it would cost to produce and man in the United States a military force of the same size and with the same weapons inventory as that of the USSR and to operate that force as the Soviets do. It then compares these estimates with US defense outlays. This approach provides a general appreciation of the relative magnitude of the defense activities of the two countries. Dollar cost data also provide a means of aggregating elements of each country's military program into comparable categories and thus can show trends and relationships between the two defense establishments that are difficult to discern and measure in other ways.

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In addition, this paper provides information on US and Soviet order of battle, production, and manpower to supplement the dollar estimates. This is the main difference between this paper and an unclassified dollar cost comparison released in January 1979!

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Definitions

These comparisons include all US and Soviet military activities considered by the United States to have national security roles:

- National security programs that in the United States would be funded by the Department of Defense.
- Defense-related nuclear programs such as those funded in the United States by the Department of Energy.
- Conscription.
- The defense-related activities of the US Coast Guard and the Soviet Border Guards.

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The following activities are excluded:

- Military retirement pay, which reflects the cost of past rather than current activities.
- Veterans' programs.
- Space activities that in the United States would be funded by NASA.
- Civil defense and military assistance programs, except for the pay and allowances of uniformed personnel engaged in such programs.
- Soviet Internal Security Troops (who essentially perform internal police functions) and the Construction and Transportation Troops.

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The physical quantity data contained in this paper are of two types: delivery data, which refer to the quantities of selected weapon systems produced in a given year, and order-of-battle data, which refer to the existing inventory of weapon systems in active units at a given time (the middle of the calendar year for the Soviet Union and the end of the fiscal year for the United States).

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The data on weapons associated with a particular mission are generally consistent with the dollar estimates for that mission. In a few cases, however, it was not possible to obtain information on US deliveries that matched exactly the corresponding expenditures and order-of-battle data. One example is tactical aircraft deliveries. Some aircraft (trainers, for instance) that are not in the tactical air force mission as defined in the *Defense Planning and Programming Categories* are, nevertheless, included in deliveries.

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Methodology

With the exception of those for RDT & E, the dollar costs of Soviet defense activities are developed on the basis of a detailed identification and listing of Soviet forces and their support. The components that make up these forces and their support are multiplied by estimates of what they would cost in the United States in dollars. The results are then aggregated by military mission and by resource category. The costs of duplicating the Soviet's RDT & E effort in the United States are estimated in the aggregate by converting an estimate of their ruble costs into US dollars.

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US dollar cost data are in terms of outlays derived from *The Five-Year Defense Program (FYDP)* issued by the Department of Defense in January 1979 and the US budget for fiscal year 1980. The US data have been converted from fiscal year to calendar year terms, and defense-related activities of the Department of Energy and the Coast Guard have been added. The US figures in this report, therefore, do not match actual budget authorizations or appropriations. US order-of-battle data were derived from the FYDP; US production data were provided directly by the Department of Defense.

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The cost data presented here are expressed in constant dollars so that trends in cost estimates will reflect real changes in military forces and activities and not the effects of inflation. Prices used in this paper represent the purchasing power of the dollar for defense goods and services at midyear 1978.

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The year 1968 has been chosen as a starting point for all the comparisons in order to cover the last decade. That choice, however, accentuates the negative US growth trends because 1968 was the high point of the Vietnam-era spending. This should be kept in mind as Soviet and US growth trends are compared.

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Comparisons With Previous Estimates

Estimates of the dollar costs of Soviet defense activities are revised each year to take into account new information and new assessments of the size, composition, and technical characteristics of the Soviet forces and activities as well as improvements in costing methodologies. The US data used for comparative purposes are similarly revised each year to take into account changes in the *Five-Year Defense Program* and the *Defense Planning and Programming Categories (DPPC)*. Both the Soviet and US data are updated annually to reflect the most recent price base.

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This year's estimate of the dollar cost of Soviet defense activities for 1977 is about 12 percent higher than the estimate for that year published in 1978. Two-thirds of that 12-percent difference is the result of US price inflation. The remaining 4 percent—that is, the real increase—was caused primarily by improved estimates of aircraft maintenance costs, an improved methodology for applying US pay rates to the Soviet force structure, and an upward revision of our estimates of Soviet manpower.

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There are also some differences between the estimates contained in this paper and those contained in the unclassified dollar cost comparison we released in January 1979. The most significant of these changes are in US outlays. In the January paper we used *estimated* outlays for fiscal year 1978. Total *actual* outlays, used in this paper, are approximately \$2 billion less because the US did not spend funds that had been obligated. There are also some changes on the Soviet side within the components of the major missions. These are the result of continuing adjustments to the Soviet accounts to ensure comparability with the DPPC. (Soviet total and resource estimates were not affected by these changes.)

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The Index Number Problem

Evaluating the defense activities of both countries in dollar terms introduces a basic measurement problem common to all international economic comparisons and known to economists as the index number problem. Because of this problem, a comparison will yield different results depending

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on which country's prices are used. Given different resource endowments and technologies, countries tend to use more of the resources that are relatively cheap—and less of those that are relatively expensive—for a given purpose. A comparison drawn in terms of the prices of one country may overstate the relative value of the activities of the other. This tendency is more pronounced the greater the disparity between the economies. [redacted]

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The degree of possible overstatement of Soviet defense activities relative to those of the United States inherent in the dollar cost comparison cannot be measured precisely. An appreciation of the magnitude of the index number problem can be obtained, however, by calculating the other extreme—that is, by computing the ratio of Soviet to US defense activities measured in ruble cost terms, which may overstate US activities relative to Soviet. A ruble cost comparison shows Soviet defense activities in 1978 to be about 30 percent larger than comparable US activities; a dollar cost comparison shows them to be about 50 percent larger. Thus the potential effect of the overstatement is not large enough to alter the basic conclusion that Soviet defense activities in 1978 were considerably larger than those of the United States. [redacted]

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Confidence in the Dollar Estimates

The reliability of the estimates depends on the precision and accuracy of our estimates of the Soviet activities and the cost factors applied to that data base. We believe that the dollar cost estimate for total defense activities is unlikely to be in error by more than 10 percent in the current period or by more than 15 percent in the late 1960s. This judgment, although supported by the use of statistical techniques, nonetheless contains a large subjective element. Moreover, the margin of error can be much wider for some of the individual items and categories. We are more confident in our estimates for the higher levels of aggregation than in those for lower levels.² Within the lower levels, our confidence varies from category to category. [redacted]

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We place our highest confidence in the estimate of personnel costs, which accounts for about 35 percent of the total estimated dollar cost of Soviet defense activities for the 1968-78 period. These manpower costs are obtained by applying US factors for pay and allowances to estimates of Soviet military manpower. [redacted]

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We also have substantial confidence in our estimate of total military investment, which represents about 30 percent of the estimated total dollar costs. The investment category includes procurement of weapons and equipment and construction of facilities. These dollar costs are based for the

² The reader should keep this caveat in mind as he reads the mission sections, which seek to analyze the forces in considerable detail. [redacted]

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most part on detailed estimates of Soviet weapons production and characteristics that can be ascertained with reasonable confidence through intelligence methods.

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Although we are somewhat less confident in our estimates of operation and maintenance costs, which are about 20 percent of the total dollar estimate, we nonetheless regard these estimates as substantially improved over those of previous years.

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The estimated dollar costs for Soviet research, development, testing, and evaluation (RDT&E), which are derived in the aggregate using a less certain methodology, should be regarded as significantly less reliable than those for either investment or operating. The level and trend of these estimates, however, are consistent with the judgment, made with high confidence, that the Soviet military RDT&E effort is large and that the resources devoted to it are growing.

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We are generally much more confident in data that represent trends rather than absolute levels, especially if only a single year is involved. Cumulative dollar estimates for any single type of weapon do not represent stock value estimates, which would take into account depreciation, loss, retirement, and previously existing supplies.

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Limitations of Dollar Cost Estimates

Although dollar cost estimates provide a means of comparing the overall magnitudes and trends of defense activities in the two countries, the reader is cautioned that:

- They do not, by themselves, provide measures of the overall effectiveness of either Soviet or US forces. (The order-of-battle data provided with the dollar estimate will, however, give the reader some insight into the relative size and composition of the two forces.)
- Dollar costs do not measure actual Soviet defense spending, the impact of defense on the economy, nor the Soviet perception of defense activities. These issues are more appropriately analyzed with ruble expenditure estimates.

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Total Defense Costs

For the 1968-78 period, the estimated cumulative dollar costs of all Soviet defense activities (less pensions) exceeded comparable US outlays by almost 15 percent. Moreover, the major trends in the defense activities of the two countries were quite different.

- The estimated dollar costs of Soviet defense activities grew continuously throughout the period at an average rate of about 3 percent per year, with growth in nearly all the major missions of the Soviet defense establishment.
- Annual US defense outlays fell from the Vietnam peak in 1968 continuously until 1976. They leveled off in 1977 and then grew slightly in 1978 as increases in RDT&E, procurement, and operation and maintenance costs offset declines in construction and personnel costs. [redacted]

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As a result, the estimated annual dollar costs of Soviet defense activities, which were less than three-fourths of US defense outlays at the beginning of the period, surpassed them in 1971 and by 1978 were 50 percent higher. [redacted]

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Other aggregations of defense activities show that:

- If uniformed personnel costs (which are based on relatively high US pay rates) are excluded from both sides, the estimated dollar costs of Soviet activities in 1978 exceeded US outlays by almost 35 percent.
- If RDT&E costs (considerably less reliable than other parts of the total) are excluded from both sides, the estimated dollar costs of Soviet activities in 1978 exceeded US outlays by approximately 45 percent.
- If pensions are included, the estimated dollar costs of Soviet activities exceeded US outlays by 40 percent in 1978. (Pensions are usually excluded since they represent the cost of past, not current, defense activities.) [redacted]

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Total Defense Activities, 1968-78

A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities

Billion 1978 Dollars



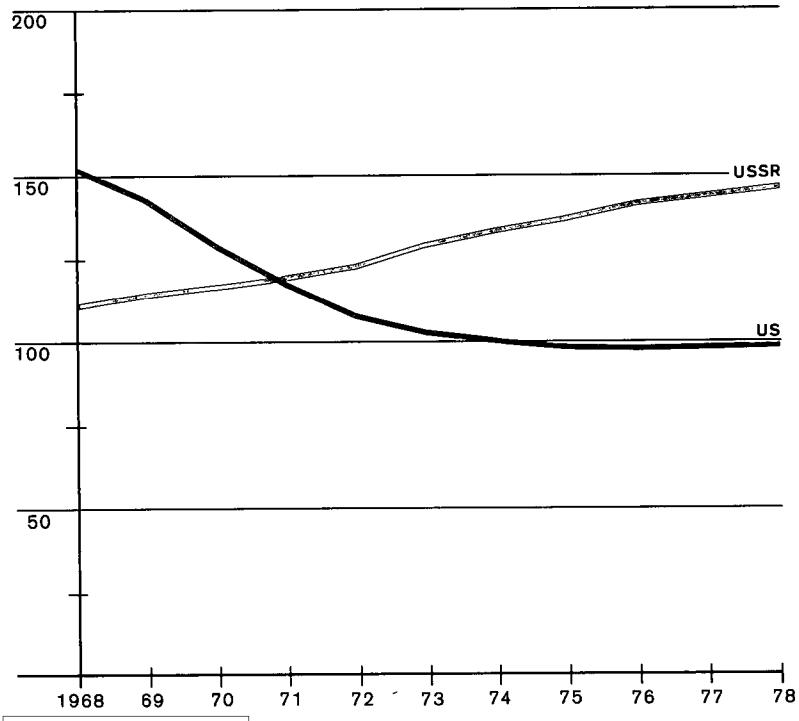
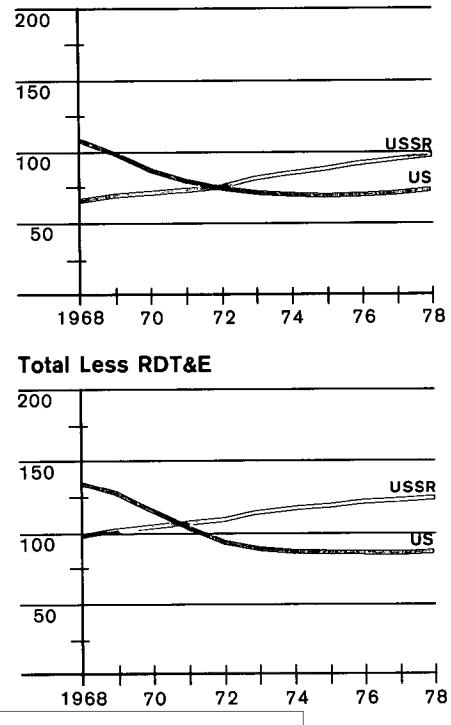
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US and Soviet Defense Activities
A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities

Billion 1978 Dollars**Total****Total Less Personnel**

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	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative	Average Annual Growth Rate (%)
Billion 1978 Dollars													
Total													
US	153.3	143.7	129.6	117.9	108.3	103.0	100.5	98.6	92.2	98.2	99.2	1,250.4	-4.2
USSR	111.1	114.7	117.3	119.8	123.1	129.5	133.5	137.1	141.8	143.9	146.5	1,418.2	2.8
Plus pensions													
US	158.5	149.4	135.7	124.4	115.3	110.5	108.5	107.0	107.0	107.5	108.8	1,332.6	-3.6
USSR	115.0	118.8	121.7	124.5	128.1	134.9	139.2	143.1	148.1	150.5	153.4	1,477.6	2.9
Less RDT & E													
US	137.4	129.2	116.0	104.4	94.7	89.7	87.9	86.8	86.5	85.9	86.7	1,105.2	-4.4
USSR	99.0	102.2	104.6	106.7	109.0	114.2	116.6	118.5	121.5	122.1	123.6	1,237.9	2.2
Less personnel													
US	108.0	99.6	88.3	80.5	75.0	71.9	70.5	69.6	70.0	70.7	72.3	876.4	-3.8
USSR	67.0	69.7	70.9	72.5	74.8	81.0	84.3	87.2	91.4	93.7	96.0	888.5	3.7

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Soviet Forces Opposite China

Both the Soviet Union and the United States structure their forces not only for a major East-West war but also for other possible conflicts. For example, a share of Soviet defense spending has been allocated to forces opposite China, which do not represent a direct threat to the United States. (Of course, at least some of these forces could be redeployed to meet other contingencies.) [redacted]

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Our estimates of the dollar cost of forces opposite China are based on the order of battle for units and major weapon systems that are deployed near the Chinese border. We developed both a high and a low estimate to reflect our uncertainty of exactly which elements are oriented against China, but only the high estimate is displayed in the accompanying graph. The following weapon systems and units are included in the high estimate:

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- SS-20 launchers located along the Sino-Soviet border and in the Ural Mountains within range of Chinese targets.
- SS-11 Mod 1 and Mod 2/3 launchers at five complexes oriented toward China.
- All ballistic missile submarines in the Pacific Fleet with a peripheral attack mission—that is, the G-I, G-II, H-II, and Z-conversion classes.
- All strategic interceptor aircraft located within 300 nautical miles of the Sino-Soviet border.
- Tactical aircraft in the four eastern military districts and in Turkestan.
- Medium and heavy bombers stationed within range of the Chinese border.
- All ground forces in the four eastern military districts and Mongolia, except for one division on the Kamchatka Peninsula.
- Transport aircraft in the four eastern military districts.
- A proportional share of overall service-level command and support costs.

We estimate the share for Soviet forces opposite China to be between 10 and 15 percent of the total dollar cost estimate for defense activities (minus pensions and RDT&E)³ over the 1968-78 period. The absolute amount devoted to forces opposite China has almost doubled over the period, and the share has increased by approximately 50 percent. In dollar terms only about one-sixth of the average 3-percent growth rate can be attributed to the growth of forces opposite China. [redacted]

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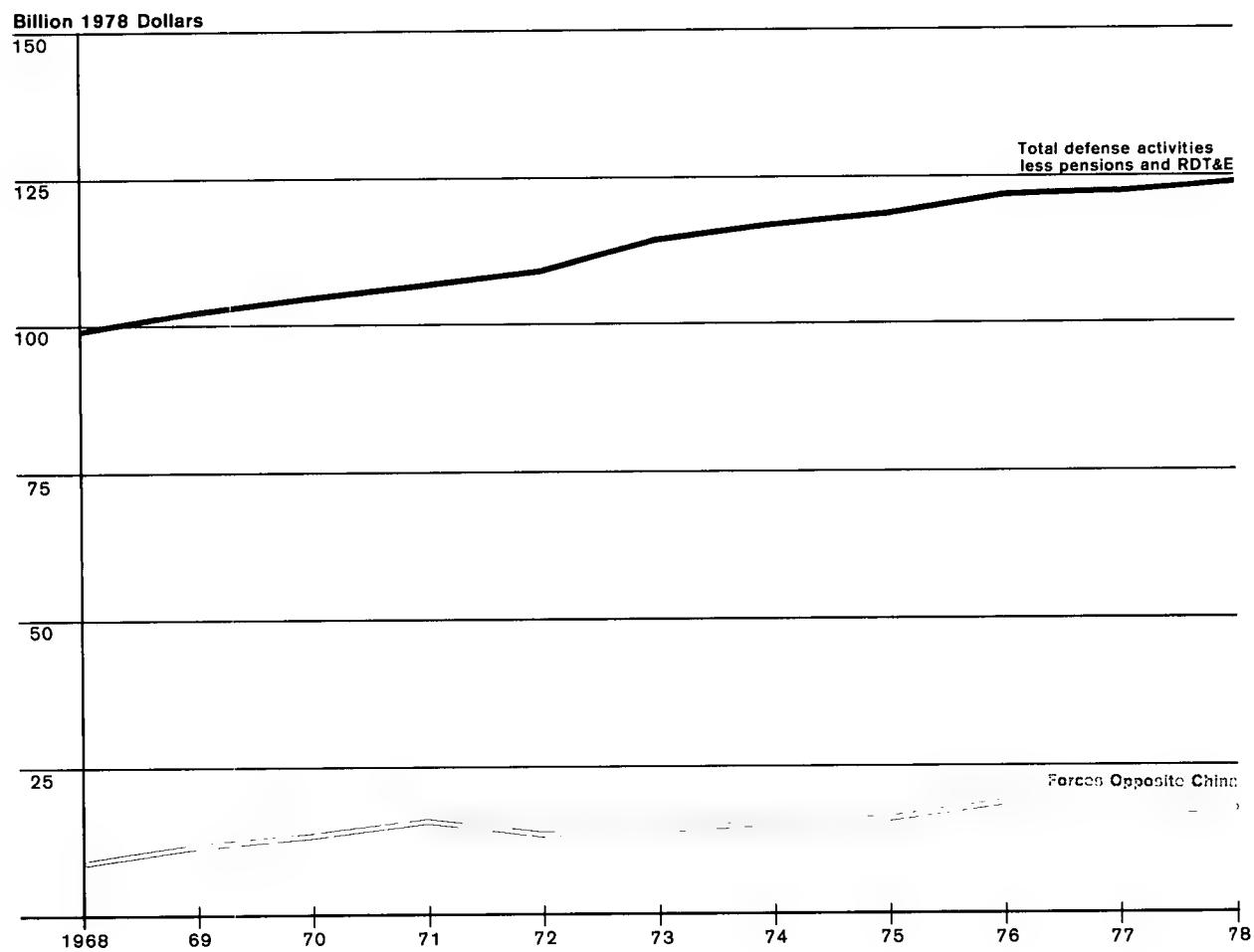
Similar analyses could be made of US defense expenditures, but we have not attempted them here. For instance, US expenditures in Southeast Asia could properly be regarded as not threatening the USSR. [redacted]

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³ We cannot allocate RDT&E between forces opposite China and other categories; therefore, it is not logical to include it in the total. [redacted]

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Estimated Dollar Cost of Forces Opposite China



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Resource Comparisons

The comparison of Soviet and US defense activities presented in this section separates defense costs into the following resource categories:

- Investment costs—the dollar costs of activities to replace, modernize, or expand forces through the procurement of equipment, including major spare parts, and the construction of facilities.
- Operating costs—uniformed personnel costs and other costs associated with operating and maintaining equipment and facilities. These are directly related to the size of the forces and to their level of activity.
- RDT&E costs—the costs of exploring new technology, developing new weapon systems, and improving existing systems.

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**Estimated Dollar Costs of Soviet Defense Resources
As a Percent of Comparable US Outlays** Percent

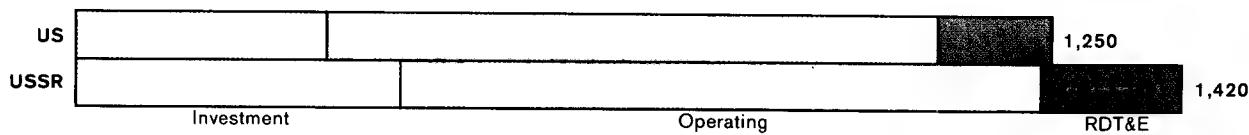
	1978	1968-78 Total
Investment	180	130
Operating	130	105
RDT&E	185	125

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Military Resources, 1968-78

A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities

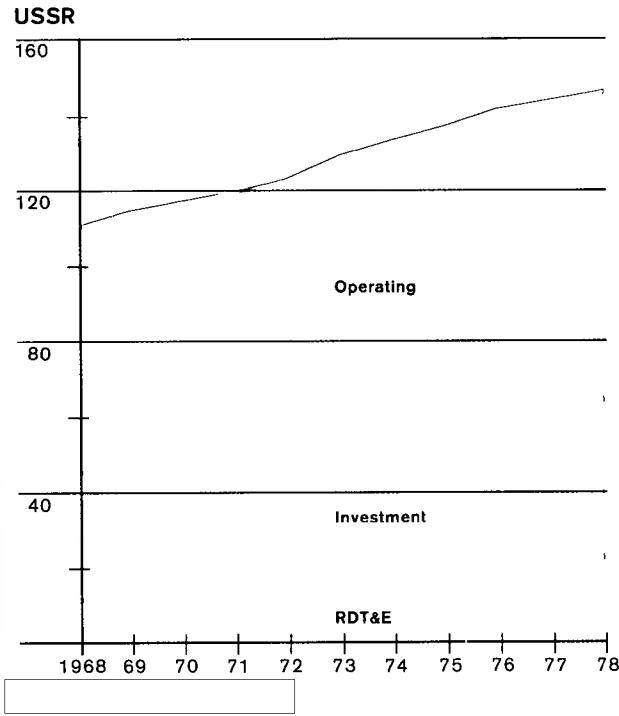
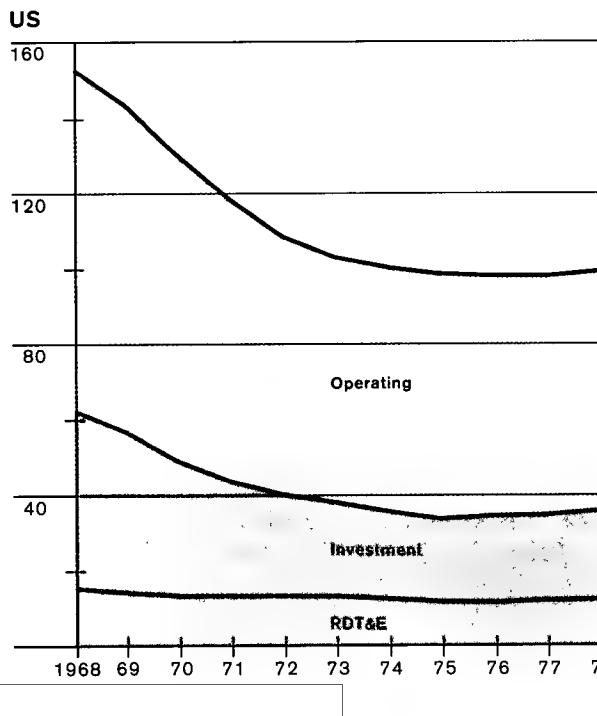
Billion 1978 Dollars



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Military Resources**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

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	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative	Average Annual Growth Rate (%)
Billion 1978 Dollars													
US													
RDT&E	15.9	14.6	13.6	13.5	13.5	13.3	12.6	11.8	11.7	12.2	12.5	145.2	-2.3
Investment	46.8	42.2	35.3	30.1	26.5	24.7	23.3	22.3	23.2	22.8	23.5	320.8	-6.4
Operating	90.6	86.9	80.7	74.3	68.2	65.0	64.7	64.5	63.3	63.1	63.2	784.4	-3.5
Total	153.3	143.7	129.6	117.9	108.3	103.0	100.5	98.6	98.2	98.2	99.2	1,250.4	-4.2
USSR													
RDT&E	12.1	12.4	12.7	13.1	14.1	15.4	17.0	18.6	20.2	21.8	23.0	180.3	6.7
Investment	33.7	35.2	35.0	35.1	35.1	38.2	39.2	39.9	41.3	41.5	42.1	416.3	2.3
Operating	65.3	67.0	69.6	71.6	73.8	75.9	77.4	78.6	80.3	80.6	81.5	821.6	2.2
Total	111.1	114.7	117.3	119.8	123.1	129.5	133.5	137.1	141.8	143.9	146.5	1,418.2	2.8

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Investment Costs

Investment costs can be divided into two subtotals:

- Procurement—the estimated cost of procuring weapon systems and support equipment, including major spare parts.
- Construction—the estimated cost of constructing the required defense facilities.

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For the 1968-78 period, the estimated cumulative dollar cost of Soviet investment was 30 percent greater than US investment. Cumulative procurement estimates were 25 percent greater; cumulative construction estimates were 60 percent greater.

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The trends of investment costs in the two countries were dissimilar. The estimated dollar cost of Soviet investment grew slowly over the period; US investment decreased over 50 percent between 1968 and 1975 and has grown slowly since then.

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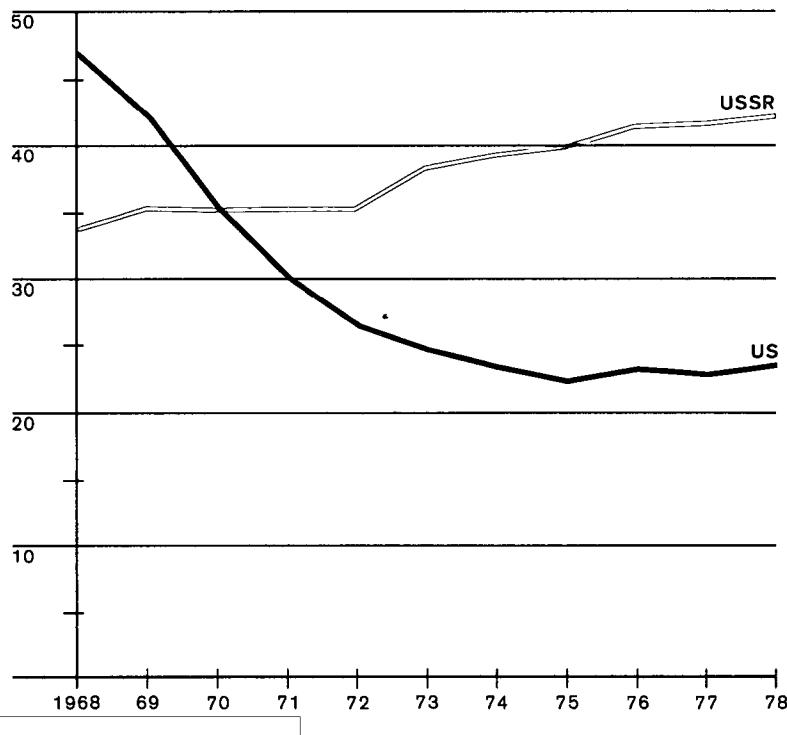
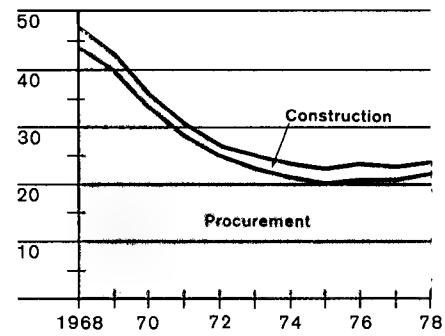
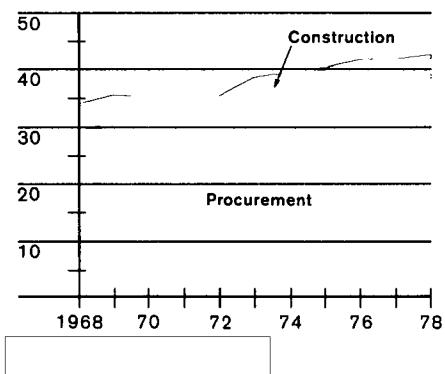
Soviet investment, measured in dollar terms, grew by 25 percent between 1968 and the end of the period. Aircraft procurement increased 60 percent; missile procurement, 45 percent; and land arms procurement, 10 percent. Ship procurement declined by 15 percent over the period.

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Military Investment**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars****Total****US****USSR**

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	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
US												
Procurement	43.5	39.5	33.1	28.0	24.5	22.6	21.1	19.9	20.6	20.7	21.7	295.0
Construction	3.3	2.7	2.2	2.1	2.0	2.1	2.2	2.4	2.6	2.2	1.8	25.8
Total	46.8	42.2	35.3	30.1	26.5	24.7	23.3	22.3	23.2	22.8	23.5	320.8
USSR												
Procurement	29.6	30.4	30.6	31.1	31.2	34.5	35.7	36.5	37.8	38.2	38.8	374.6
Construction	4.1	4.8	4.3	3.9	3.9	3.7	3.5	3.4	3.4	3.3	3.2	41.7
Total	33.7	35.2	35.0	35.1	35.1	38.2	39.2	39.9	41.3	41.5	42.1	416.3

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Operating Costs

Operating costs can be divided into two subtotals:

- Uniformed personnel costs, which include food, clothing, travel, medical, and other pay and allowances for active and reserve military manpower. They do not include retirement pay.
- Operation and maintenance (O&M) costs, which include all costs of operating and maintaining military equipment and facilities.

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Estimated cumulative dollar costs of operating the Soviet forces approximately equaled US outlays for the 1968-78 period. Cumulative personnel costs were 40 percent higher; cumulative O&M costs were 30 percent lower.

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The trends in operating costs over the period were different for the two countries.

- The estimated dollar costs of Soviet uniformed personnel rose steadily over the whole period while US outlays for personnel fell continuously. These trends mirrored the manpower changes (see page 54).
- The estimated dollar costs of Soviet O&M rose continuously over the period, while US outlays fell until 1973 and then grew unevenly for the rest of the period.

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As a result of these trends, the dollar estimate of total Soviet operating costs grew by 25 percent over the period, while US outlays fell by 30 percent.

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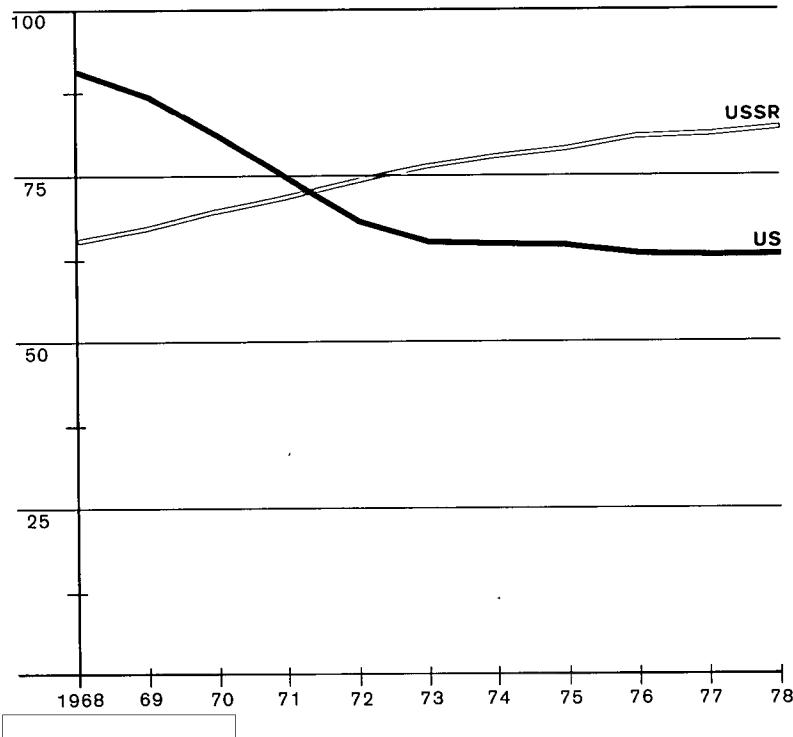
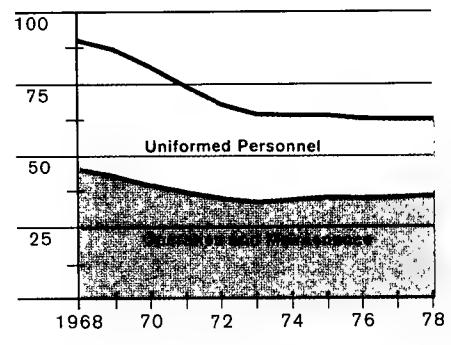
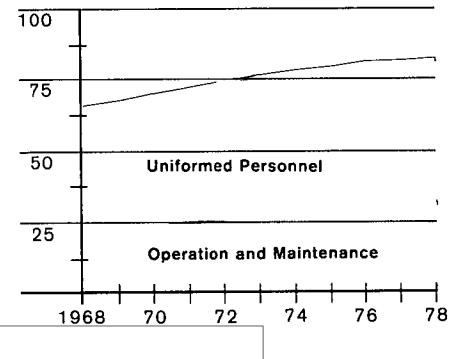
In 1978 estimated dollar costs of operating the Soviet forces exceeded US outlays by 30 percent, whereas they were only three-fourths of US outlays at the beginning of the period.

25X1

Secret

14

Secret

Operating Activities**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars****Total****US****USSR**

25X1

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
<i>Billion 1978 Dollars</i>												
US												
Personnel	45.3	44.2	41.4	37.4	33.3	31.0	30.0	28.9	28.1	27.4	27.0	373.9
O&M	45.3	42.8	39.3	37.0	35.0	33.9	34.7	35.6	35.1	35.6	36.2	410.5
Total	90.6	86.9	80.7	74.3	68.2	65.0	64.7	64.5	63.3	63.1	63.2	784.4

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
<i>Billion 1978 Dollars</i>												
USSR												
Personnel	44.1	45.0	46.4	47.3	48.2	48.5	49.2	49.9	50.4	50.3	50.5	529.7
O&M	21.2	22.1	23.2	24.3	25.6	27.4	28.2	28.7	29.9	30.4	31.0	291.9
Total	65.3	67.0	69.6	71.6	73.8	75.9	77.4	78.6	80.3	80.6	81.5	821.6

25X1

Secret

Research, Development, Testing, and Evaluation Estimates of the dollar costs of Soviet RDT&E are derived in the aggregate using a less certain methodology and, therefore, should be considered less reliable than the other estimates in this assessment. Nevertheless, the available information on particular RDT&E projects, published Soviet statistics on science, and statements by Soviet authorities on the financing of research indicate that military RDT&E expenditures were both large and growing during the 1968-78 period. This assessment is reinforced by evidence on increases in the manpower and facilities devoted to Soviet military RDT&E programs.

25X1

In 1978 Soviet RDT&E continued at a high level. We estimate that the Soviets currently have over 50 new or modified aircraft, missiles, naval ships, and space systems in flight-testing or on trials. Also, we have identified a number of development programs that have not yet reached the flight test or trial stage. These include new combat and support aircraft; new or modified strategic attack, surface-to-air, antitank, and naval cruise missiles; advanced naval surface ships and submarines; ground force weapons, including a new tank; and new space systems.

25X1

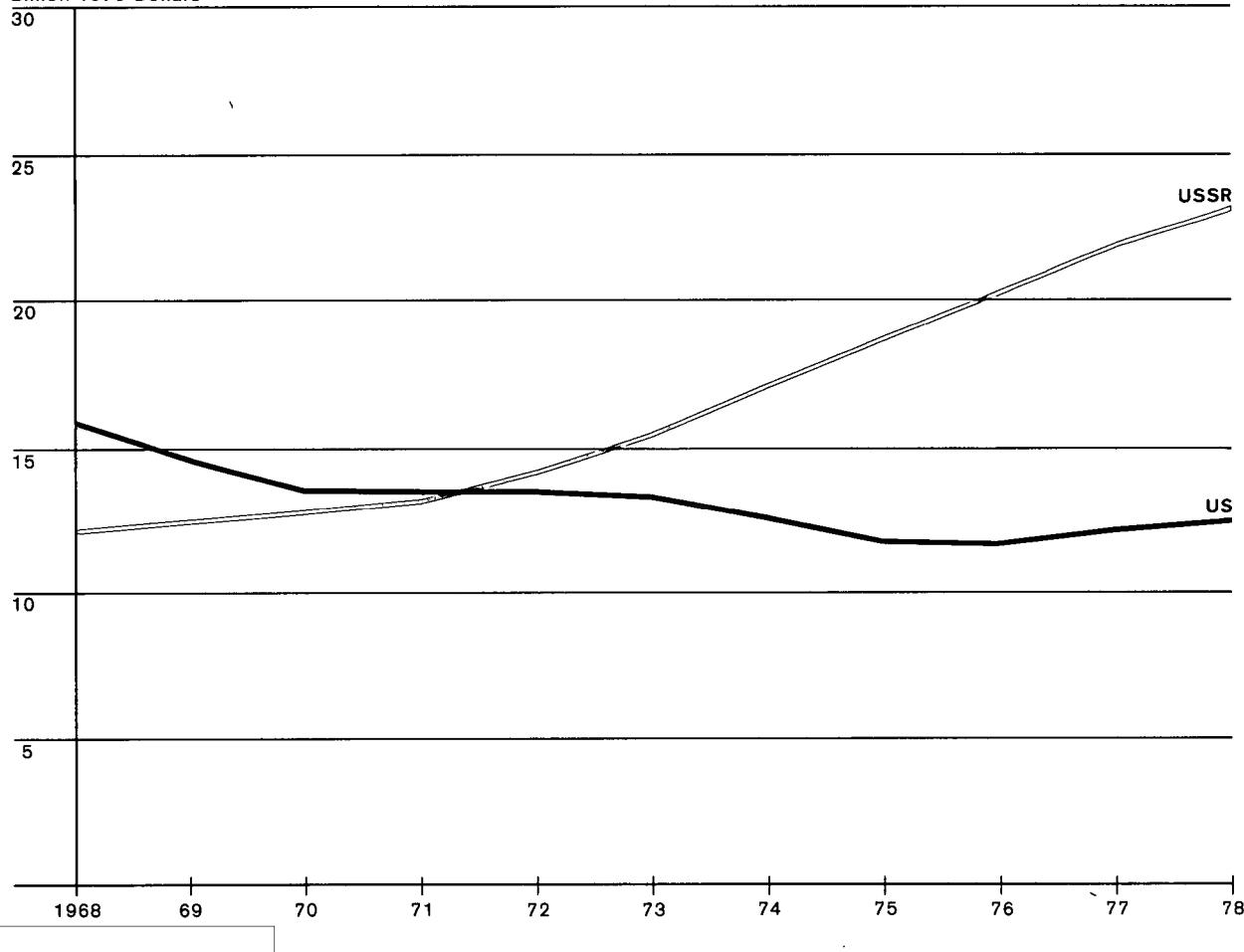
25X1

For the period as a whole, the estimated cumulative dollar costs of Soviet RDT&E activities were about 25 percent greater than US outlays for comparable activities. In 1978 they were almost twice as much as corresponding US outlays.

25X1

Secret

16

Secret**RDT&E****A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

<i>Billion 1978 Dollars</i>	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
RDT&E												
US	15.9	14.6	13.6	13.5	13.5	13.3	12.6	11.8	11.7	12.2	12.5	145.2
USSR	12.1	12.4	12.7	13.1	14.1	15.4	17.0	18.6	20.2	21.8	23.0	180.3

25X1

Secret

Military Mission Comparisons

Mission comparisons presented here are organized in accordance with the January 1979 version of the *Defense Planning and Programming Categories (DPPC)* of the US Department of Defense. This allows the presentation of US and Soviet force and spending comparisons in terms familiar to US defense planners, reviewers, and policymakers. These definitions do not, of course, correspond to the way the USSR organizes its military missions or allocates its defense resources. Further, these dollar costs for mission comparisons do not include any RDT&E expenditures. RDT&E expenditures for all missions are added together in a separate category (see the preceding section). 25X1

For the 1968-78 period, estimated cumulative dollar costs of all Soviet defense missions (strategic, general purpose, and support) exceeded comparable US outlays by 10 percent. 25X1

There were considerable differences in the mission trends of the two countries. US outlays for all missions, which had been 40 percent larger than the estimated Soviet dollar costs of missions in 1968, were a little over two-thirds as large as the Soviet mission total in 1978. The estimated annual dollar cost of Soviet missions grew by about 25 percent over the 1968-78 period.

- The dollar costs of Soviet strategic forces grew very little over the period (10 percent) although there was considerable fluctuation of ICBM, ballistic missile submarine, and strategic air defense activities, largely because of changes in procurement in these areas.
- The costs of Soviet general purpose forces grew more rapidly over the period (over 25 percent), reflecting in large part the military buildup along the Sino-Soviet border and within the Warsaw Pact areas.
- The costs of Soviet support forces also grew rapidly over the period (over 30 percent) as a result of the increases of personnel and equipment in the strategic and general purpose forces. 25X1

By 1977, US mission activities had declined by over 35 percent from the Vietnam peak in 1968. The major decline was in the general purpose mission, which fell as the United States withdrew from Southeast Asia. Outlays for mission activities did increase slightly the last year of the period.

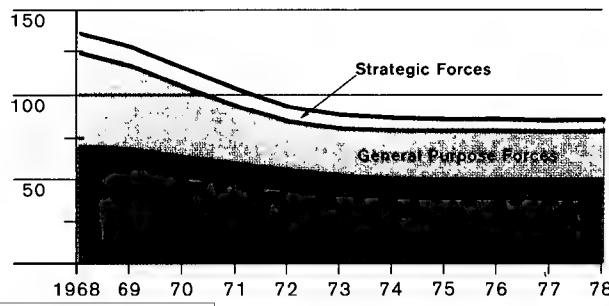
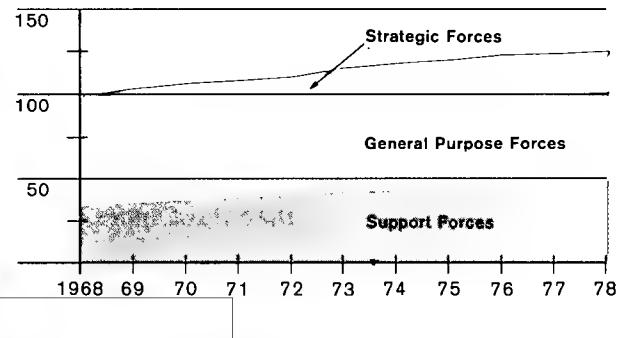
- Outlays for strategic forces fell by almost 35 percent from 1968 to 1976 before increasing by 4 percent over the last two years of the period.
- Outlays for general purpose forces fell by almost 50 percent between 1968 and 1973 but increased by 10 percent over the last five years.
- Outlays for support forces fell continuously over the period, decreasing by approximately 35 percent. 25X1

Secret

Secret

Major Missions**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities**

Billion 1978 Dollars

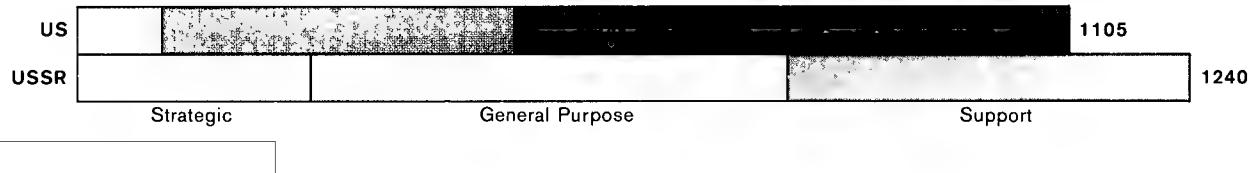
US**USSR**

25X1

Cumulative, 1968-78

Billion 1978 Dollars

25X1



25X1

Soviet Defense Missions as a Percent of Comparable US Defense Outlays

	1978	1968-78 Total
Strategic forces	330	270
General purpose forces	170	135
Support forces	95	70
Total (excluding RDT&E)	145	110

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumula- tive	Average Annual Growth Rate (%)
--	------	------	------	------	------	------	------	------	------	------	------	-----------------	---

Billion 1978 Dollars**US**

Strategic	11.0	10.8	9.9	9.3	9.0	8.6	8.0	7.3	7.3	7.5	7.6	96.3	-3.6
General purpose	54.9	49.6	42.4	35.5	30.0	28.7	29.2	29.5	30.4	30.7	31.5	392.4	-5.1
Support	71.5	68.8	63.7	59.7	55.7	52.4	50.7	50.0	48.7	47.8	47.6	616.5	-4.0
Total	137.4	129.2	116.0	104.4	94.7	89.7	87.9	86.8	86.5	85.9	86.7	1,105.2	-4.4

USSR

Strategic	22.9	24.4	23.0	21.5	21.2	22.7	24.6	24.8	25.5	25.7	25.2	261.5	1.1
General purpose	42.1	42.3	44.7	46.9	48.0	49.8	49.5	50.2	51.3	51.7	53.4	529.9	2.4
Support	34.0	35.5	36.9	38.3	39.8	41.7	42.5	43.4	44.7	44.8	44.9	446.5	2.8
Total	99.0	102.2	104.6	106.7	109.0	114.1	116.6	118.5	121.5	122.1	123.6	1,237.9	2.2

25X1

580389 10-79 CIA

Secret**Strategic Forces**

Strategic forces are defined to include the following categories:

- Strategic offense (intercontinental and peripheral attack).
- Strategic defense.
- Strategic control and surveillance.
- Nuclear weapons (although this is not a DPPC category, we add all nuclear weapons to strategic forces). [redacted]

25X1

Over the 1968-78 period, the estimated cumulative dollar costs of Soviet strategic force activities (exclusive of RDT&E) were more than two and a half times those of comparable US outlays. Moreover, the gap widened over the period: the estimated Soviet costs were twice as high in 1968 but more than three times as high in 1978. [redacted]

25X1

These differences were largely the result of the widely different circumstances of the two countries during the period. In contrast to the United States, the Soviet Union faced:

- A potential threat along its border from non-US forces.
- A significant force of US intercontinental bombers.
- A US strategic offensive force at the beginning of the period that was considerably stronger than its Soviet counterpart. [redacted]

25X1

Consequently Soviet strategic activities during the period were characterized by:

- Expansion and improvement of ICBM and submarine-launched ballistic missile forces, resulting in rough parity with the US strategic attack forces by the end of the period.
- Growing investment in control and surveillance.
- Continued emphasis on forces for strategic defense against bomber attack.
- Emphasis on ballistic missile forces as opposed to strategic bomber forces.
- Maintenance and improvement of a peripheral attack force, for which the United States has no counterpart. [redacted]

25X1

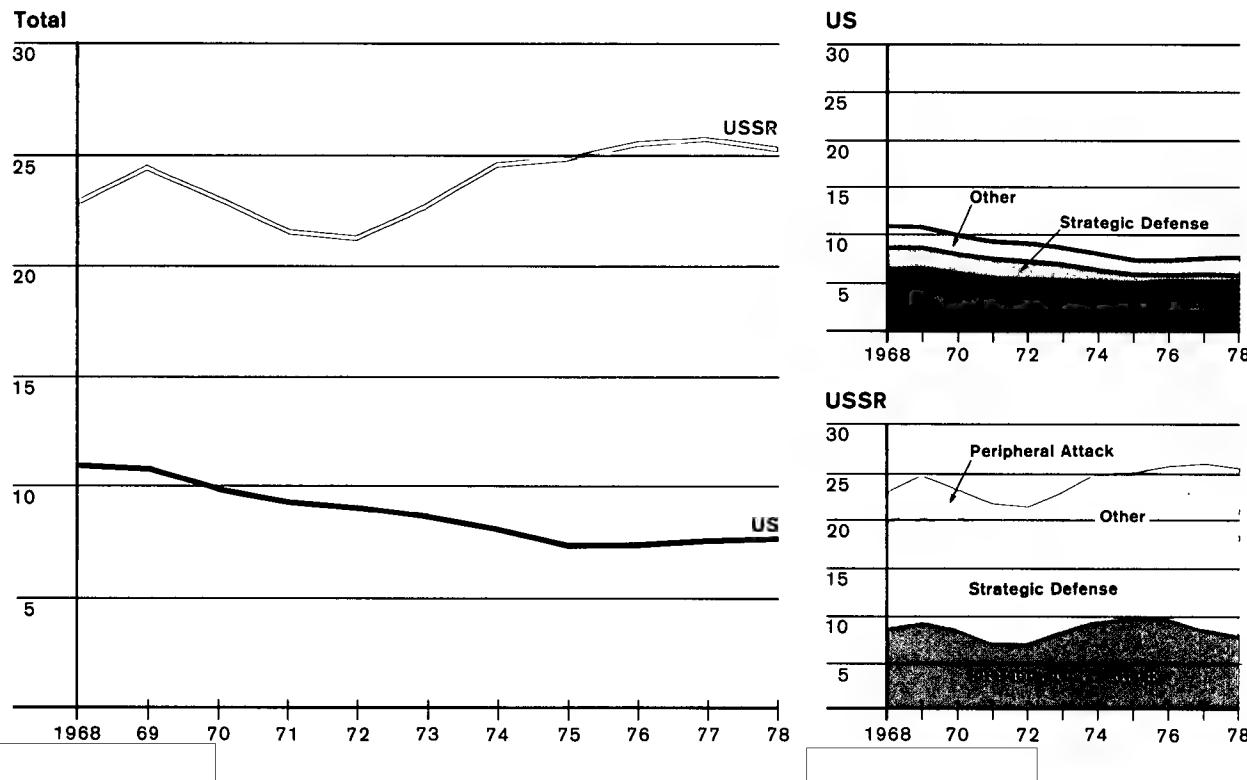
US strategic programs, on the other hand, were characterized by:

- Qualitative—as opposed to quantitative—improvements in the ICBM, SLBM, and heavy bomber forces.
- A reduction in the number of heavy bombers.
- The creation, growth, and eventual abandonment of the ABM program.
- A continuing reduction in strategic interceptor and SAM forces. [redacted]

25X1

Secret

Secret

Strategic Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
US												
Intercontinental attack	6.5	6.5	5.9	5.4	5.3	5.2	5.0	4.9	5.1	5.2	5.3	60.3
Strategic defense	2.2	2.1	2.0	2.0	1.9	1.7	1.3	0.9	0.7	0.5	0.5	15.9
Other*	2.3	2.2	2.0	1.9	1.8	1.8	1.6	1.5	1.6	1.7	1.8	20.1
Total	11.0	10.8	9.9	9.3	9.0	8.6	8.0	7.3	7.3	7.5	7.6	96.3
USSR												
Intercontinental attack	8.6	9.1	8.4	7.0	6.8	8.1	9.3	9.6	9.5	8.4	7.6	92.5
Peripheral attack	3.2	3.0	2.7	2.9	3.1	3.0	3.0	3.3	3.9	4.1	4.4	36.4
Strategic defense	9.5	10.9	10.3	9.8	9.4	9.5	9.9	9.3	9.4	10.5	10.4	108.9
Other*	1.6	1.4	1.6	1.7	1.9	2.2	2.3	2.7	2.7	2.8	2.9	23.7
Total	22.9	24.4	23.0	21.5	21.2	22.7	24.6	24.8	25.5	25.7	25.2	261.5

* "Other" includes nuclear weapons and strategic control and surveillance.

25X1

Secret

Intercontinental Attack Forces.

This mission consists of intercontinental ballistic missile forces, submarine-launched ballistic missiles and the associated submarines, and intercontinental bombers. [redacted]

25X1

Over the entire 1968-78 period the estimated cumulative dollar costs of these Soviet forces exceeded comparable US outlays by 55 percent. In 1978 estimated Soviet dollar costs exceeded US outlays by over 40 percent. [redacted]

25X1

The trends in the two countries were quite different: the USSR expanded its forces, while the United States improved the capabilities of already existing forces.

- Estimated dollar costs of the Soviet intercontinental attack mission peaked twice during the period—once in the late sixties and again in the middle seventies as new ICBMs and nuclear-powered ballistic missile submarines were introduced.
- US spending for intercontinental attack forces fell until 1975 as both procurement and operating costs, particularly of intercontinental bombers, were cut. However, US spending for this mission grew by 3 percent a year from 1975 until the end of the period. [redacted]

25X1

As a result of these trends, the USSR during the period:

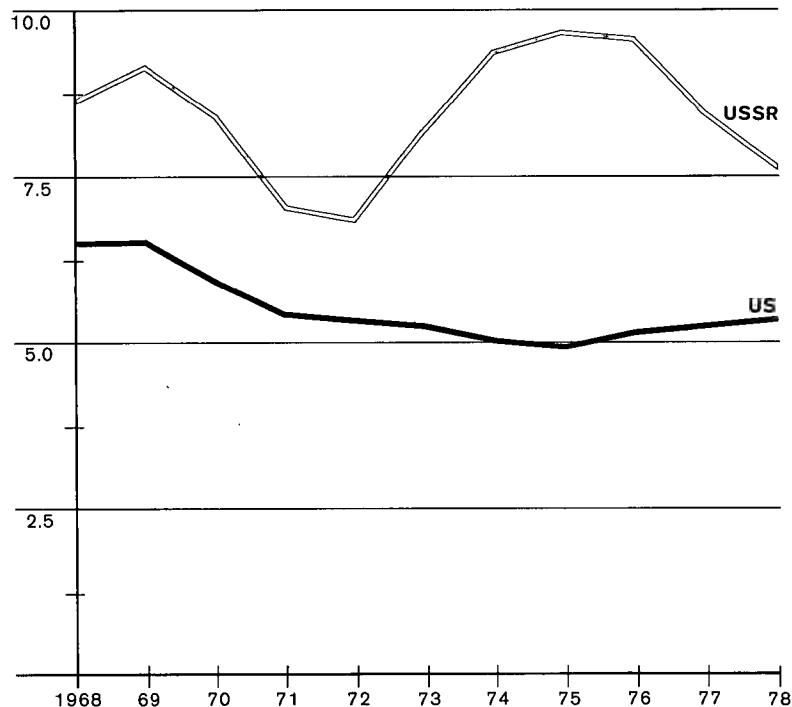
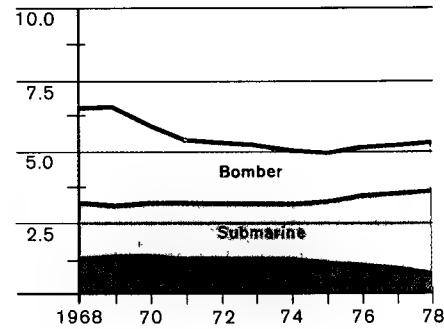
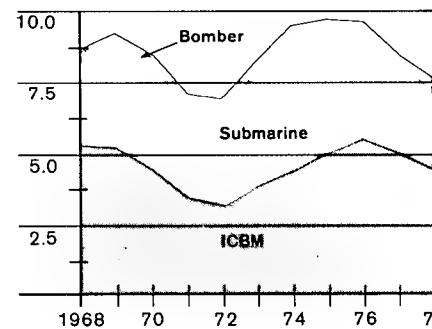
- Overtook the United States in number of delivery vehicles but remained behind it in total online missile reentry vehicles and bomber weapons.
- Overtook and far surpassed the United States in total missile and bomber throw weight, yield, and equivalent megatons. [redacted]

25X1

Secret

22

Secret

Intercontinental Attack Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars****Total****US****USSR**

25X1

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
US												
ICBM	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.7	12.4
Submarine	1.8	1.9	1.9	2.0	1.9	1.9	1.9	2.1	2.4	2.6	2.9	23.3
Bomber	3.4	3.4	2.7	2.2	2.2	2.1	1.9	1.8	1.7	1.7	1.7	24.6
Total	6.5	6.5	5.9	5.4	5.3	5.2	5.0	4.9	5.1	5.2	5.3	60.3
USSR												
ICBM	5.3	5.2	4.5	3.5	3.2	3.9	4.4	5.0	5.5	5.1	4.5	50.1
Submarine	2.9	3.5	3.6	3.2	3.3	3.9	4.5	4.2	3.7	2.9	2.7	38.3
Bomber	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	4.0
Total	8.6	9.1	8.4	7.0	6.8	8.1	9.3	9.6	9.5	8.4	7.6	92.5

25X1

Secret

Intercontinental Ballistic Missiles. The estimated cumulative dollar costs of Soviet ICBM activities for the 1968-78 period were four times the total US outlays in this area. In 1978, estimated Soviet costs exceeded US outlays by a factor of six. [redacted]

25X1

The difference reflects the extensive expansion of Soviet ICBM forces.

- From 1968 through 1974, the USSR deployed over 1,000 additional SS-9, SS-11, and SS-13 ICBM launchers.
- In 1974 the Soviet Union introduced a new generation of ICBMs with more accurate, MIRVed warheads and harder silos.
- Over the last five years of the period, about 375 SS-9 and SS-11 launchers were converted into improved SS-17, SS-18, and SS-19 launchers. [redacted]

25X1

The United States, on the other hand, maintained the same number of ICBM launchers, but improved this force by:

- Deploying 550 of the more accurate MIRVed Minuteman III ICBMs.
- Retrofitting all Minuteman III ICBMs with an improved guidance system.

[redacted] 25X1

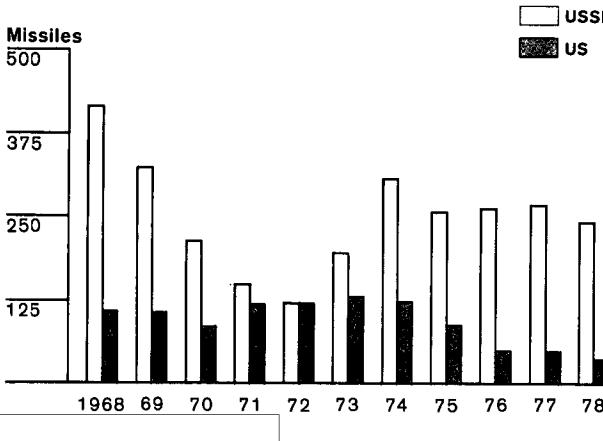
- Improving command and control. [redacted]

25X1

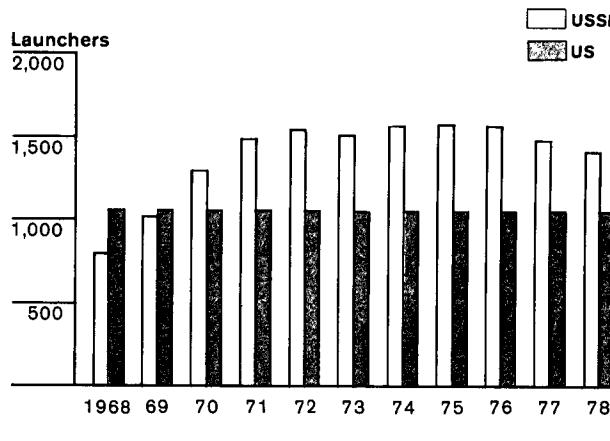
Estimated annual dollar costs of Soviet ICBM activity were largely determined by procurement of the SS-9, SS-11, and SS-13 during the first part of the period and the SS-17, SS-18, and SS-19 during the latter part. US outlays in this category during the period decreased by over a third, largely because of the completion of the Minuteman III procurement program. [redacted]

25X1

ICBM Deliveries



ICBM Launcher Order of Battle

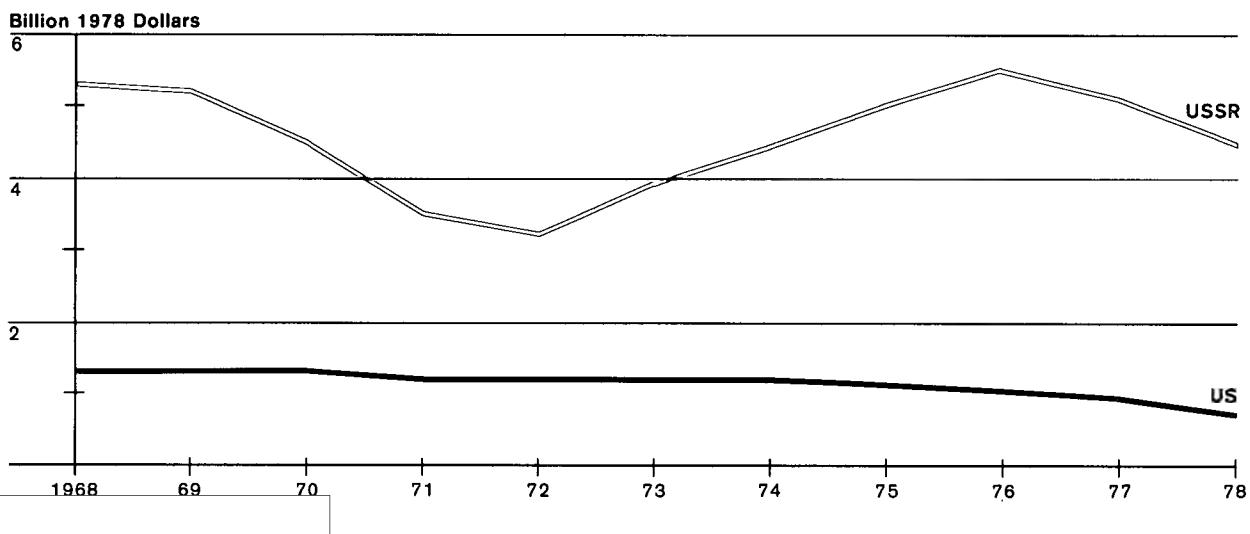


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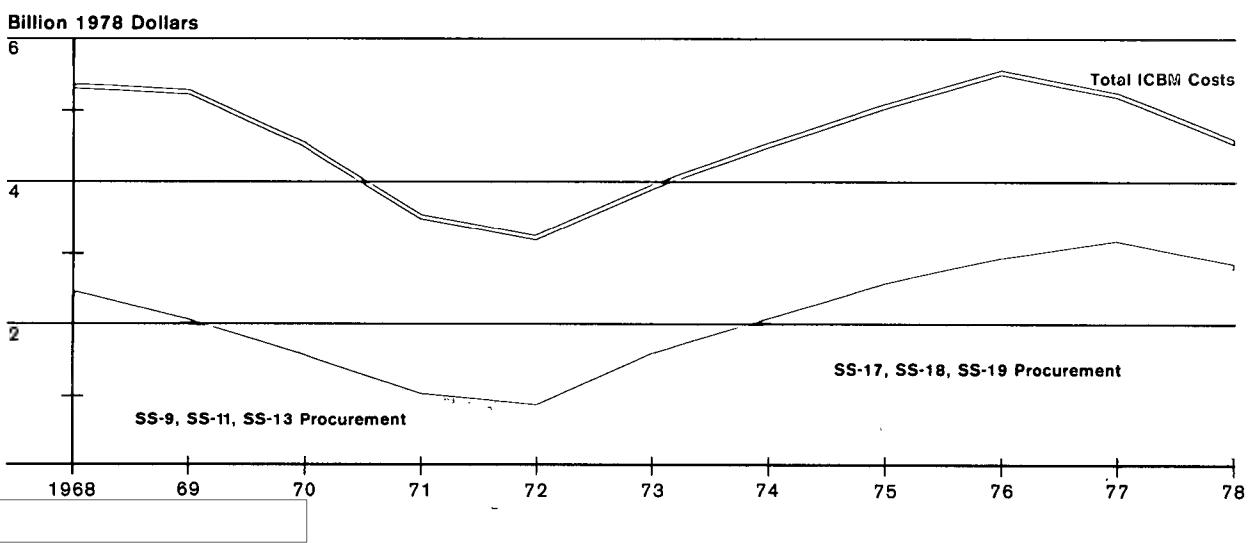
Secret

Intercontinental Ballistic Missiles**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities**

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
<i>Billion 1978 Dollars</i>												
ICBM Forces												
US	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.7	12.4
USSR	5.3	5.2	4.5	3.5	3.2	3.9	4.4	5.0	5.5	5.1	4.5	50.1

25X1

Estimated Dollar Costs of Soviet ICBM Procurement

25X1

580392 10-79 CIA

Secret

Secret

Ballistic Missile Submarines for Intercontinental Attack. This category includes all US ballistic missile submarines and the associated missiles and those Soviet ballistic missile submarines and missiles that are believed to have an intercontinental, rather than a peripheral, attack mission. [redacted]

25X1

The estimated cumulative dollar costs of these Soviet activities were about 65 percent greater than the corresponding US outlays over the 1968-78 period. For the last year of the period, however, US outlays were slightly larger than estimated Soviet dollar costs. [redacted]

25X1

The estimated annual dollar costs of Soviet intercontinental ballistic missile submarine activities during the 1968-78 period were dominated by the procurement programs for the Y- and D-class submarines and their associated SLBMs. [redacted]

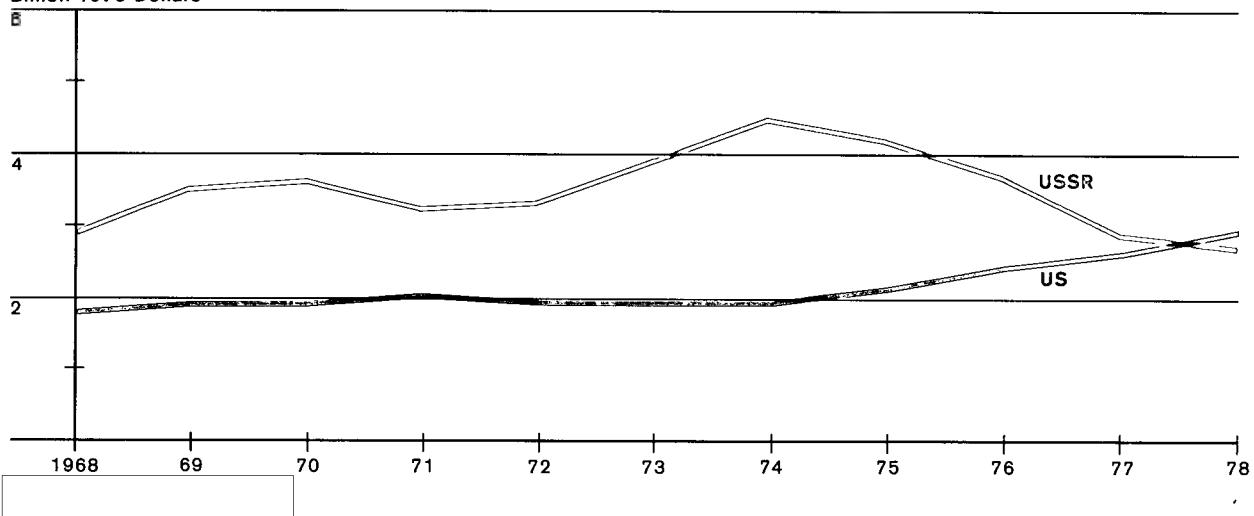
25X1

Annual US SSBN outlays were relatively constant from 1968 through 1974, because the procurement programs for the present US SSBN force were completed before the period began. The procurement of new types of SLBMs in the early seventies did not cause a large increase in US outlays then, but the start of the Trident program did cause a more than 50-percent increase over the last four years of the period. The first SSBN of that program is intended for delivery in 1980. [redacted]

25X1

Secret

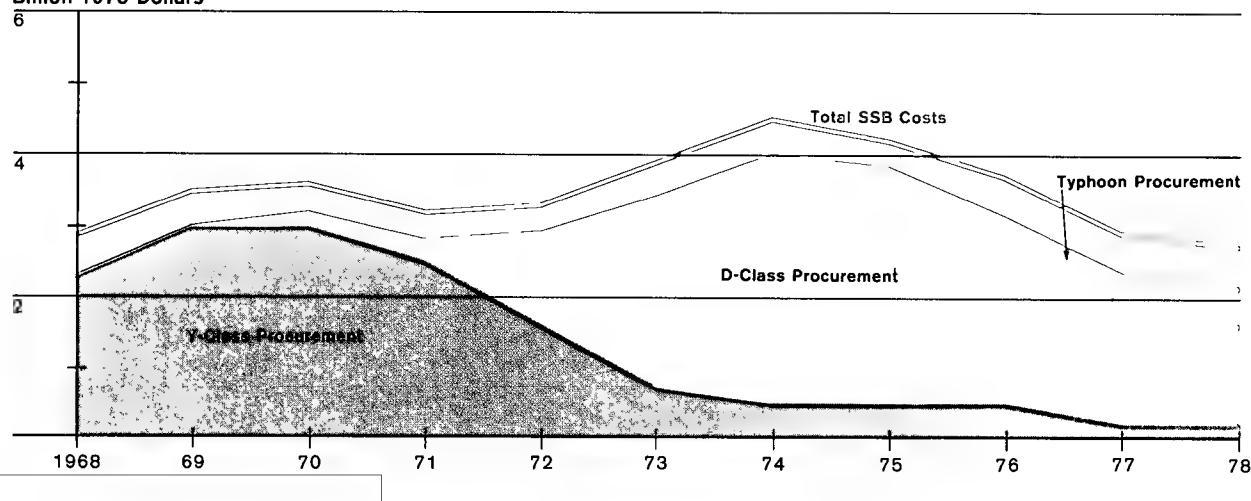
Secret

Submarines for Intercontinental Attack**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
Submarines for Intercontinental Attack												
US	1.8	1.9	1.9	2.0	1.9	1.9	1.9	2.1	2.4	2.6	2.9	23.3
USSR	2.9	3.5	3.6	3.2	3.3	3.9	4.5	4.2	3.7	2.9	2.7	38.3

25X1

Estimated Dollar Costs of Soviet SSBN Procurement**Billion 1978 Dollars**

25X1

Secret

The Soviet SSBN force grew rapidly during the period:

- From 1968 to 1975, the Soviet Union deployed 34 Y-class submarines.
- From 1972 to 1978, 29 D-I, D-II, and D-III submarines were deployed.
- In 1977 the USSR reached the SALT-imposed limit on SLBM launch tubes.
- Also in 1977, the USSR began to replace the older ballistic missile submarines with D-III-class submarines.
- Although no Typhoon-class SSBNs have yet been deployed, costs associated with this system began to appear in 1976.

25X1

The United States did not expand its fleet of 41 SLBM submarines, which it had deployed by 1968, but during the period the force was steadily improved:

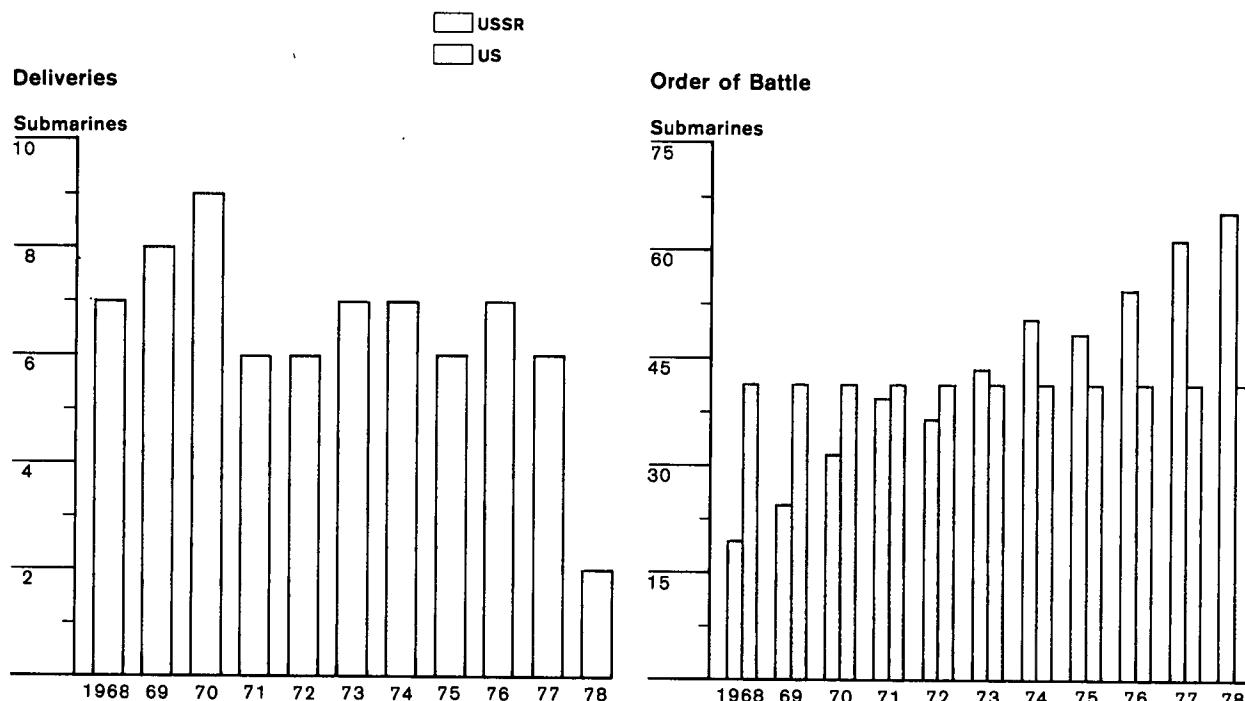
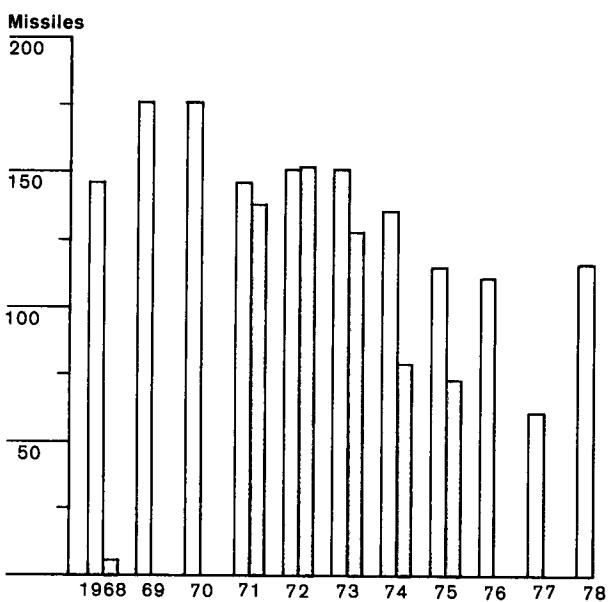
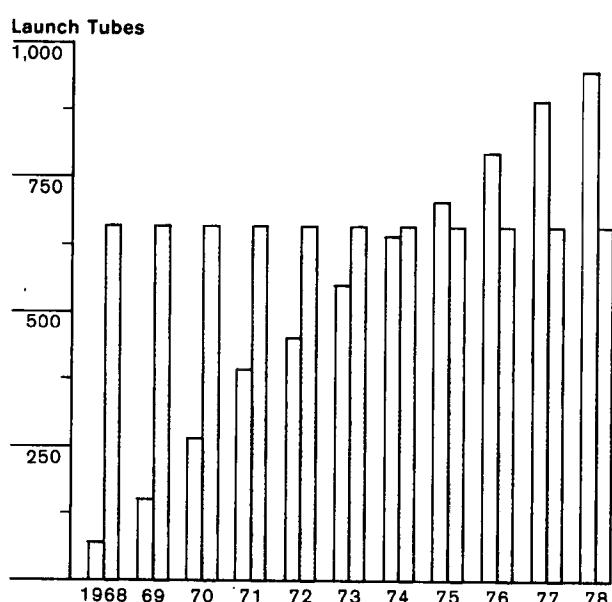
- The older Polaris A-2 SLBMs were replaced by the Polaris A-3, which has three reentry vehicles and a longer range.
- The Polaris A-3s were, in turn, largely replaced by the new Poseidon SLBM, which has a 10-MIRV warhead and greater accuracy.
- In 1976 the United States began construction of a new class of SSBNs to carry the new Trident SLBM, which has a longer range and a more powerful warhead.

25X1

Secret

28

Secret

Submarines for Intercontinental Attack**SLBM Deliveries****SLBM Launch Tube Order of Battle**

Secret

Intercontinental Bombers. This category consists of heavy bombers, related tanker systems, and other costs associated with this mission as defined by the DPPC.

- The principal aircraft included on the US side are the B-58 (early in the period), the B-52, the FB-111, and the KC-135.
- The aircraft included on the Soviet side are the TU-95 Bear and the M-4 Bison (some of the latter are tankers).⁴

25X1

Total US outlays for intercontinental bombers over the 1968-78 period were more than six times the estimated cumulative dollar costs of comparable Soviet activities. This difference reflects the much greater emphasis the United States attaches to long-range manned bombers and the heavy use of the B-52 in Vietnam.

25X1

US outlays for intercontinental bombers fell by 50 percent between 1968 and 1976 and then remained constant until the end of the period, reflecting:

- The reduction of the B-52 fleet from 510 in 1968 to 316 in 1978.
- The retirement of 78 B-58s early in the period.
- The decision near the end of the period to extend the service life of the B-52 and possibly use it as a cruise missile carrier.

25X1

The procurement of 76 FB-111 bombers from 1968 to 1971 and the procurement of short-range attack missiles for both FB-111s and B-52s after 1971 were not enough to offset the general decline.

25X1

The Soviet intercontinental bomber force remained relatively constant with about 200 Bear and Bison aircraft throughout the period. Consequently, costs were stable.

25X1

⁴ The Soviet Backfire bomber is included in the peripheral attack forces. There is, however, some controversy about the capabilities of this aircraft in the Intelligence Community. It might also be noted that the B-52 was used in a nonstrategic role in Southeast Asia.

25X1

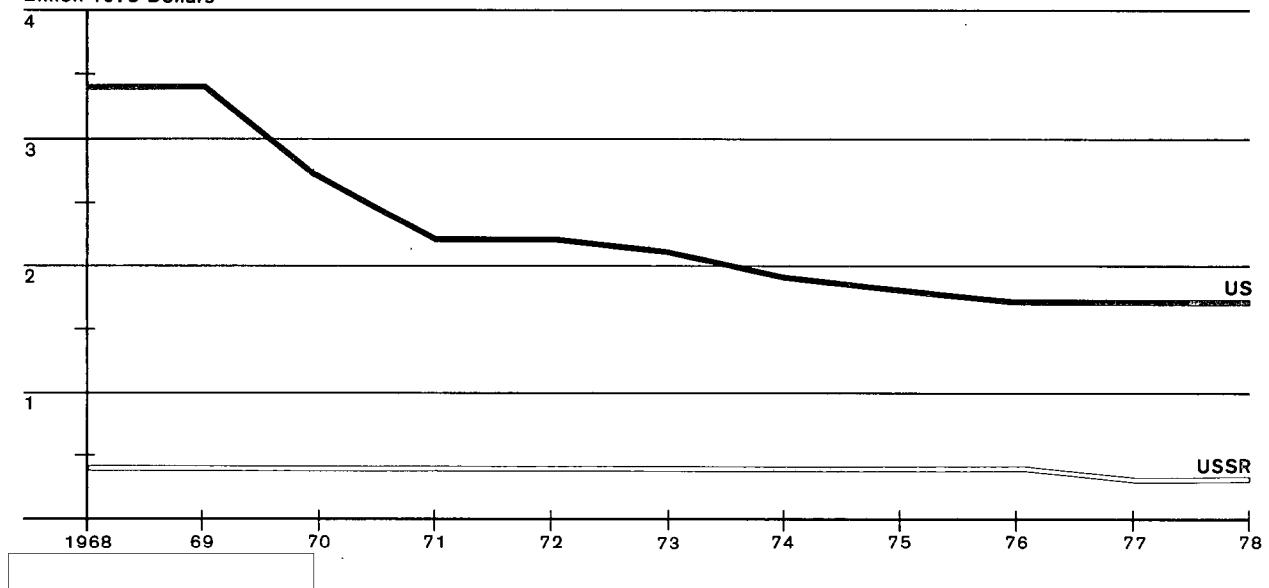
Secret

30

Secret

Intercontinental Bomber Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities**

Billion 1978 Dollars



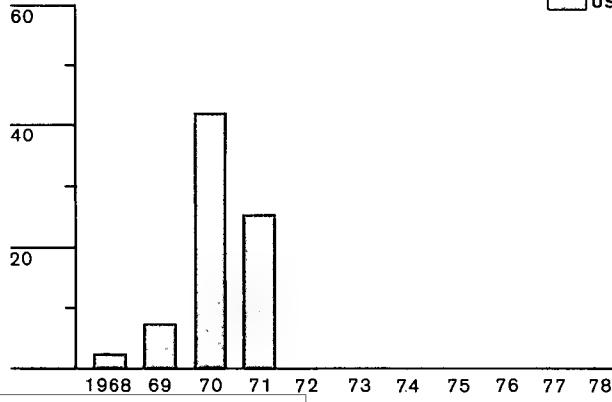
25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
<i>Billion 1978 Dollars</i>												
Intercontinental Bomber Forces												
US	3.4	3.4	2.7	2.2	2.2	2.1	1.9	1.8	1.7	1.7	1.7	24.6
USSR	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	4.0

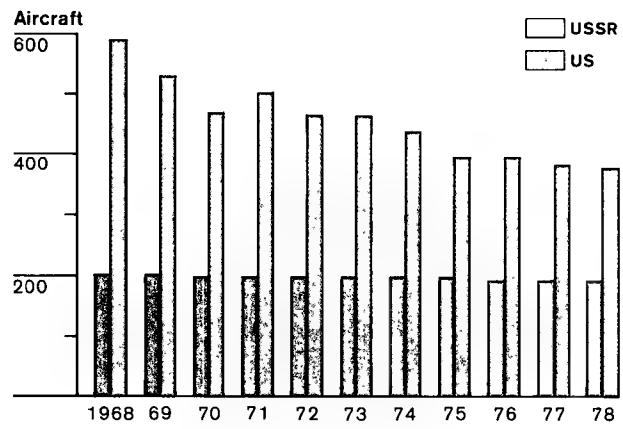
25X1

Intercontinental Bomber Deliveries

Aircraft

**Intercontinental Bomber Order of Battle**

Aircraft



Secret

25X1

580395 10-79 CIA

Secret

Secret

Strategic Peripheral Attack Forces

This category consists of forces assigned strategic targets along the periphery of the Soviet Union: medium- and intermediate-range ballistic missiles, medium bombers, and some older ballistic missile submarines formerly carried under the intercontinental attack mission.

25X1

The United States has no direct counterpart to these peripheral attack forces in terms of a DPPC mission, although certain US tactical aircraft could perform similar activities.

25X1

During the 1968-78 period the changes in the size of the Soviet peripheral attack forces were paced by the procurement of:

- Blinder bombers and SS-4 MRBMs from 1968 to 1969.
- Backfire bombers from 1971 to 1978.
- SS-20 IRBMs in the last three years of the period.

25X1

Ballistic missile submarines assigned to the peripheral attack mission are primarily older diesel-powered types. Included are the Z-class SSB, the G-I, G-II, and G-IV SSBs, and the H-II SSBN. We estimate a total of 26 of these submarines were in the order of battle in 1978.

25X1

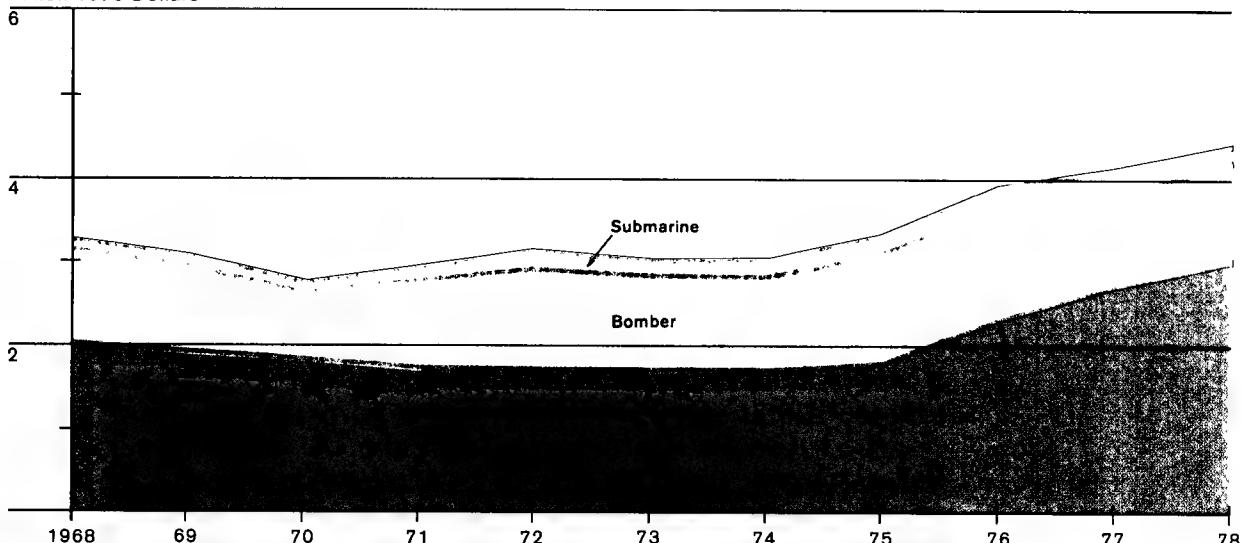
The estimated annual dollar costs of Soviet peripheral attack activities fell during the late sixties because of the decline in the procurement of peripheral attack systems. From 1970 to 1978, however, the dollar costs grew by over 6 percent a year as the Backfire bomber and the SS-20 IRBM were introduced.

25X1

Secret

32

Secret

Estimated Dollar Costs of Soviet Peripheral Attack Forces**Billion 1978 Dollars**

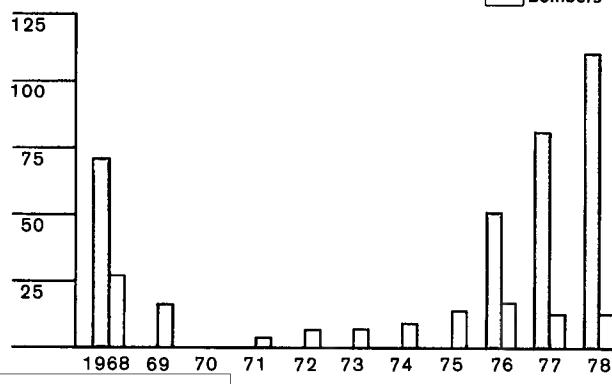
25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
Soviet Peripheral Attack Forces												
Submarine	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	1.7
Bomber	1.1	1.0	0.8	1.0	1.2	1.1	1.2	1.3	1.4	1.2	1.2	12.4
Missile	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.8	2.3	2.7	3.0	22.2
Total	3.2	3.0	2.7	2.9	3.1	3.0	3.0	3.3	3.9	4.1	4.4	36.4

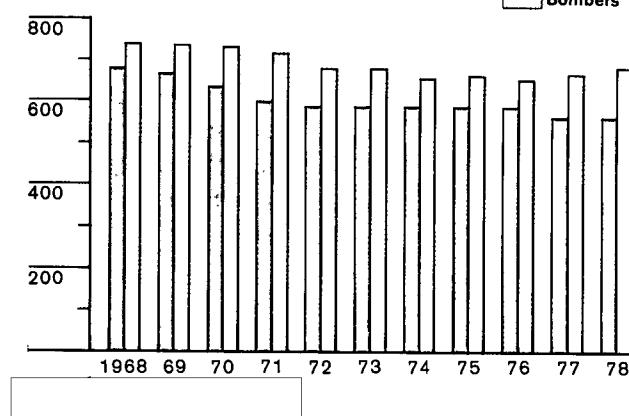
25X1

Bombers and Missiles for Peripheral Attack**Deliveries**

MR/IRBMs
Bombers

**Order of Battle**

MR/IRBMs
Bombers



25X1

25X1

25X1

580396 10-79 CIA

Secret

Strategic Defense Forces

This mission consists of strategic surface-to-air missile systems, strategic interceptor aircraft, antiballistic missile (ABM) systems, and defensive control and warning systems.

25X1

The estimated cumulative dollar costs of Soviet strategic defense during the 1968-78 period were nearly seven times as great as total US outlays for this mission. In 1978 the Soviet dollar estimate was about 20 times as great. This disparity in strategic defense activities reflected differences in the two countries' strategic doctrines as well as differences in the bomber threats facing the USSR and the United States.

- US strategic programs favored offensive forces over defensive forces with damage-limiting missions. The United States, having decided not to deploy a nationwide ABM system for defense against the Soviet ICBM and SLBM threats, chose not to commit the levels of resources necessary to modernize its strategic air defenses against the Soviet bomber threat.
- Soviet strategic programs favored more balance between offensive and, defensive forces. Although the Soviets also decided not to deploy a nationwide ABM system, they continued to commit substantial resources to bomber defenses. The relatively higher emphasis which the USSR accorded bomber defenses was influenced by the greater threat posed by the US strategic bomber force—a force much larger and more capable than its Soviet counterpart. In addition, Soviet bomber defense activities were influenced by the threat from potentially hostile aircraft in the European and Pacific theaters and in China.

25X1

During the 1968-78 period the Soviet Union:

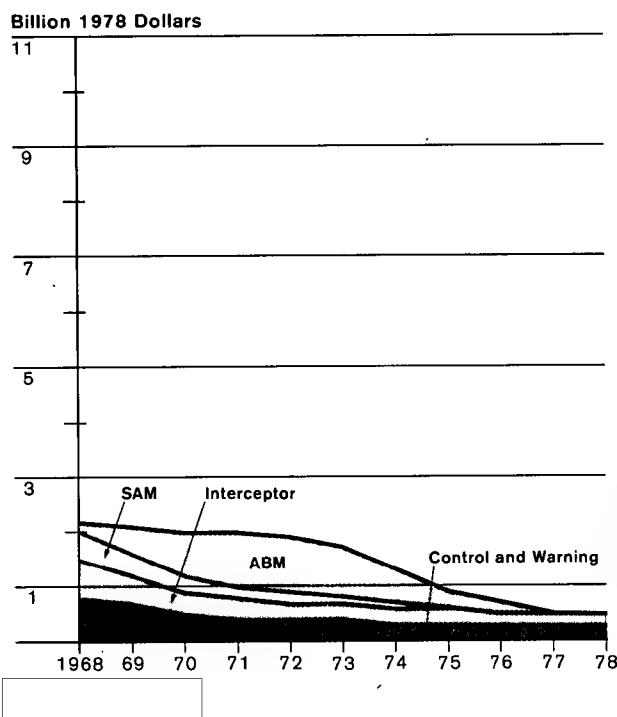
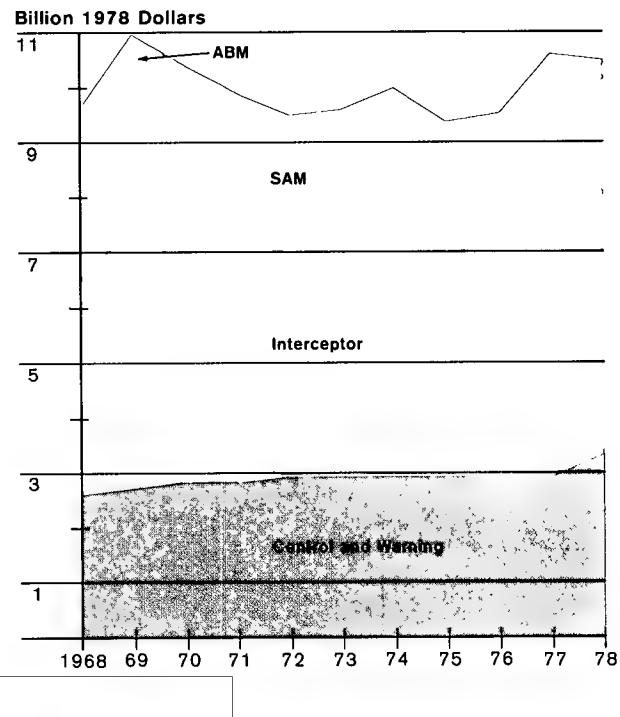
- Reduced the number of interceptors assigned to strategic air defense from over 3,300 to 2,600 while modernizing its strategic air defenses with the addition of 1,400 SU-15 Flagon, MIG-25 Foxbat, and MIG-23 Flogger interceptors.
- Completed deployment of the SA-2 strategic SAM system and continued to deploy the newer SA-3 and SA-5 SAMs, resulting in a current level of 1,200 launch sites and some 9,300 SAMs.
- Completed deployment of the Moscow ABM defenses (64 launchers) and brought two large battle management radars at Moscow to operational capability.
- Completed deployment of the Hen House ballistic missile early warning system and initiated construction of four new large phased-array radars.

25X1

Secret

34

Secret

**US Outlays
for Strategic Defense Forces****Estimated Dollar Costs
of Soviet Strategic Defense Forces**

25X1

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
<i>Billion 1978 Dollars</i>												
US												
Interceptor	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	4.0
SAM	0.5	0.4	0.3	0.2	0.2	0.1	0.1	—	—	—	—	1.7
ABM	0.2	0.5	0.8	1.0	1.1	0.9	0.6	0.3	0.1	—	—	5.5
Control and warning	0.8	0.7	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	4.7
Total	2.2	2.1	2.0	2.0	1.9	1.7	1.3	0.9	0.7	0.5	0.5	15.9
USSR												
Interceptor	3.9	4.7	4.6	4.5	4.0	4.2	4.5	4.1	4.1	5.3	4.7	48.6
SAM	2.6	2.9	2.5	2.3	2.2	2.2	2.3	2.2	2.1	2.0	2.2	25.3
ABM	0.5	0.7	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	3.4
Control and warning	2.6	2.7	2.8	2.8	2.9	2.9	2.9	2.9	2.9	3.3	3.3	31.6
Total	9.5	10.9	10.3	9.8	9.4	9.5	9.9	9.3	9.4	10.5	10.4	108.9

25X1

Secret

In contrast, the United States during this period:

- Reduced its strategic interceptor order of battle from approximately 900 to less than 300 aircraft.
- Eliminated its 135 strategic defense SAM batteries by 1975.
- Built, then deactivated, one ABM facility with 100 launchers. [redacted]

25X1

The estimated dollar costs of Soviet strategic defense forces grew early in the period, declined in the middle years, and increased at the end of the period. This pattern occurred because:

- There was a burst of interceptor, SAM, and ABM procurement early in the period.
- A large number of MIG-23 Floggers were procured toward the end of the period. [redacted]

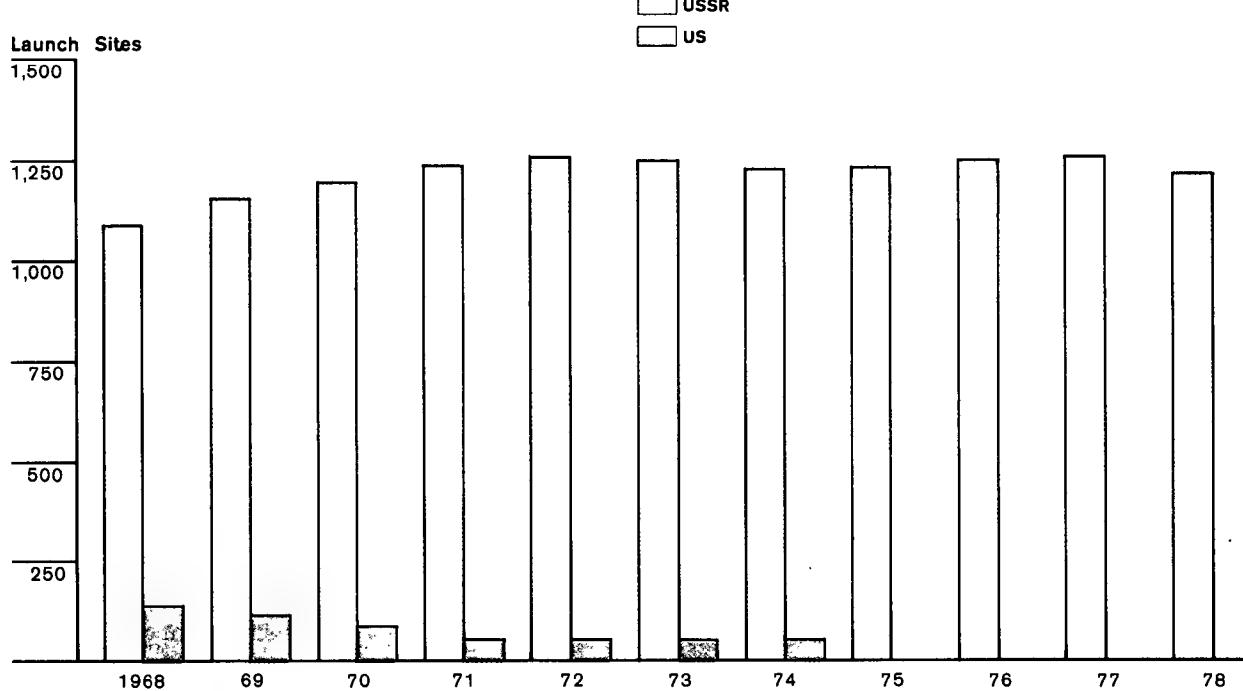
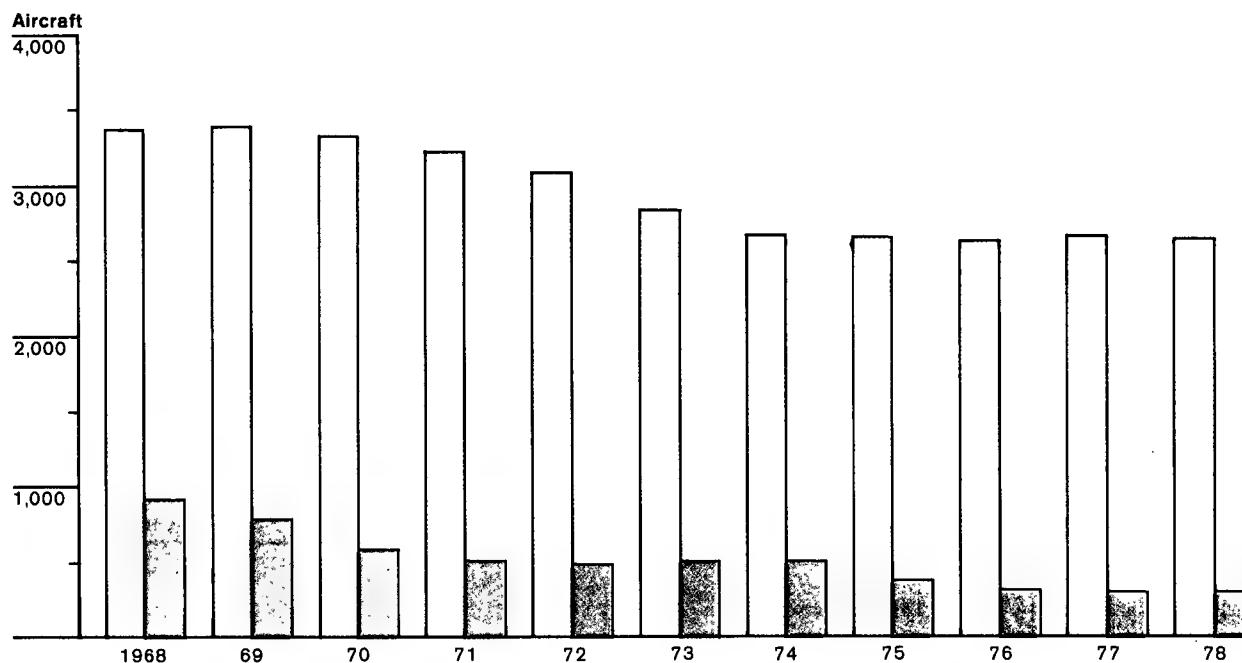
25X1

US outlays for strategic defense declined continuously during the period and in 1978 were only one-fourth as large as they had been in 1968. This occurred despite the growth of the ABM program early in the period. [redacted]

25X1

Secret

36

Secret**Surface-to-Air Missile Sites****Strategic Interceptor Order of Battle****Secret**

Secret**General Purpose Forces**

General purpose forces are defined to include the following DPPC categories:

- Land forces.
- Tactical air forces.
- General purpose naval forces (includes ASW, amphibious, and naval support forces).
- Mobility forces (includes airlift and sealift forces—see discussion on page 50). [redacted]

25X1

For the 1968-78 period the estimated cumulative dollar costs of Soviet general purpose forces were 35 percent more than corresponding US outlays. The Soviet annual total was three-fourths of US outlays at the beginning of the period but surpassed US spending in 1970 and by the end of the period was 70 percent higher. [redacted]

25X1

The trends in US and Soviet general purpose force levels were quite different during the period:

- Soviet general purpose forces increased as a result of the expansion and modernization of ground and tactical air forces, the buildup along the Sino-Soviet border and in Warsaw Pact areas, the increase in Soviet naval force levels and operations, and continued deployment of advanced tactical aircraft.
- US general purpose forces decreased because of the reduction of operations in Southeast Asia. [redacted]

25X1

The estimated annual dollar cost of Soviet general purpose forces increased by 25 percent over the 1968-78 period, while corresponding US outlays fell by almost 45 percent. Outlays for US general purpose forces fell only until 1973 and then grew slowly over the rest of the period because of increasing operation and maintenance costs and modernization of the land, naval, and tactical air forces. Over the period the subcategories of the mission, in dollar cost terms, changed as shown below. [redacted]

25X1

	Percentage Change	
	USSR	US
Land forces	20	-55
Tactical air forces	220	-45
Naval forces	5	-10
Mobility forces	25	-65 *

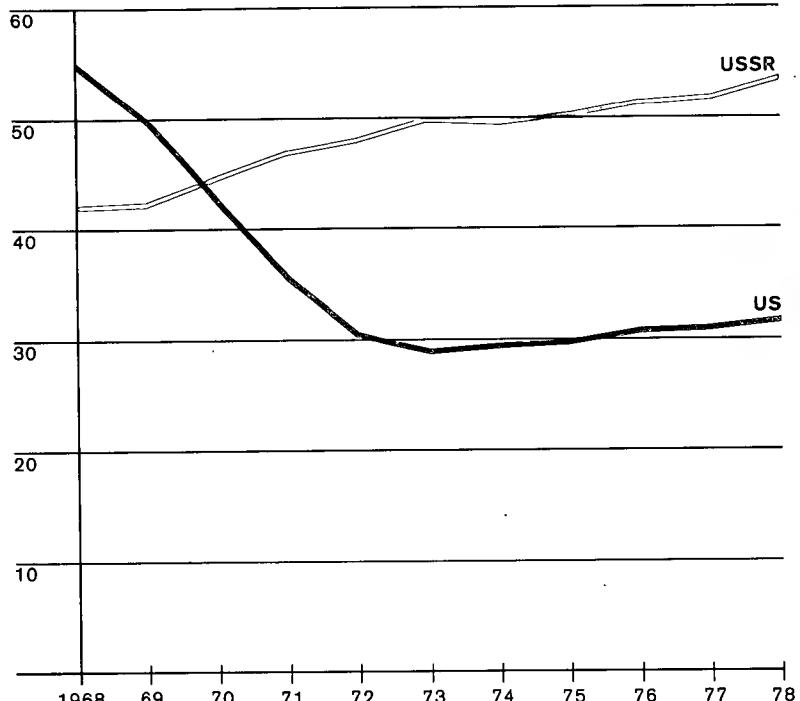
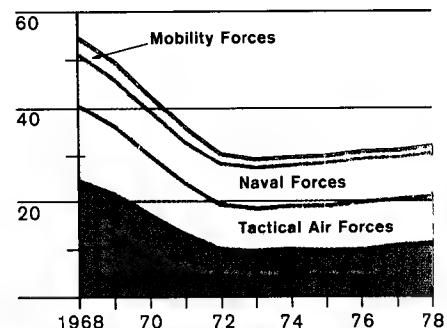
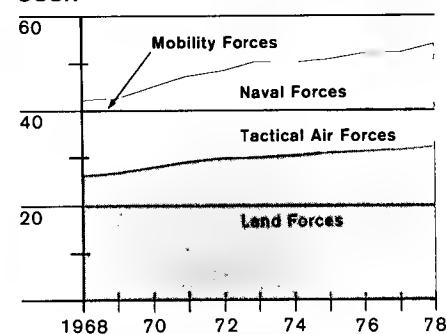
* See discussion on page 50.

[redacted]

25X1

Secret

Secret

General Purpose Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars****Total****US****USSR**

25X1

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
US												
Land	24.5	21.6	17.5	13.2	10.1	9.6	10.1	9.8	9.9	10.8	11.2	148.2
Tactical air	16.3	14.4	12.4	10.6	9.4	9.1	9.0	9.3	9.8	9.6	9.8	119.5
Naval	10.5	10.1	9.4	8.9	8.5	8.5	8.8	9.0	9.5	9.1	9.3	101.5
Mobility	3.6	3.4	3.2	2.8	2.1	1.6	1.4	1.3	1.3	1.2	1.2	23.2
Total	54.9	49.6	42.4	35.5	30.0	28.7	29.2	29.5	30.4	30.7	31.5	392.4
USSR												
Land	26.5	26.9	28.1	29.2	30.0	30.2	30.4	31.1	31.5	31.8	32.2	327.7
Tactical air	3.8	4.0	5.0	6.2	7.2	8.8	8.1	8.0	8.2	7.7	8.4	75.7
Naval	9.8	9.3	9.5	9.5	8.8	8.4	8.6	8.8	9.1	9.7	10.3	101.9
Mobility	2.0	2.0	2.1	2.0	2.1	2.4	2.4	2.3	2.4	2.4	2.5	24.7
Total	42.1	42.3	44.7	46.9	48.0	49.8	49.5	50.2	51.3	51.7	53.4	529.9

25X1

Secret

Land Forces

This mission consists of the DPPC categories of Land Division Forces including both the US Army and US Marines, and all elements of the Soviet ground forces not included in the support and mobility categories.

25X1

Over the 1968-78 period the estimated cumulative dollar costs of Soviet land forces were twice as large as corresponding US outlays. In 1978 the Soviet total was close to three times its US counterpart, although the two totals had been nearly equal in 1968.

25X1

The trends of this mission in the two countries have been dissimilar. Estimated Soviet costs in dollar terms have steadily grown. US outlays, on the other hand, fell sharply from 1968 to 1973 and then grew in the second half of the period.

25X1

The manpower and weapons inventory of Soviet land forces expanded during the 1968-78 period, reflecting a continued increase in the size of divisions and the addition of 11 divisions, increasing the total to 172 in 1978.

25X1

Accompanying this increase in Soviet manpower (500,000 men) was a modernization of the Soviet land forces weapons inventory, accomplished in part by procuring almost 28,000 tanks and over 40,000 other armored vehicles (primarily armored personnel carriers).

25X1

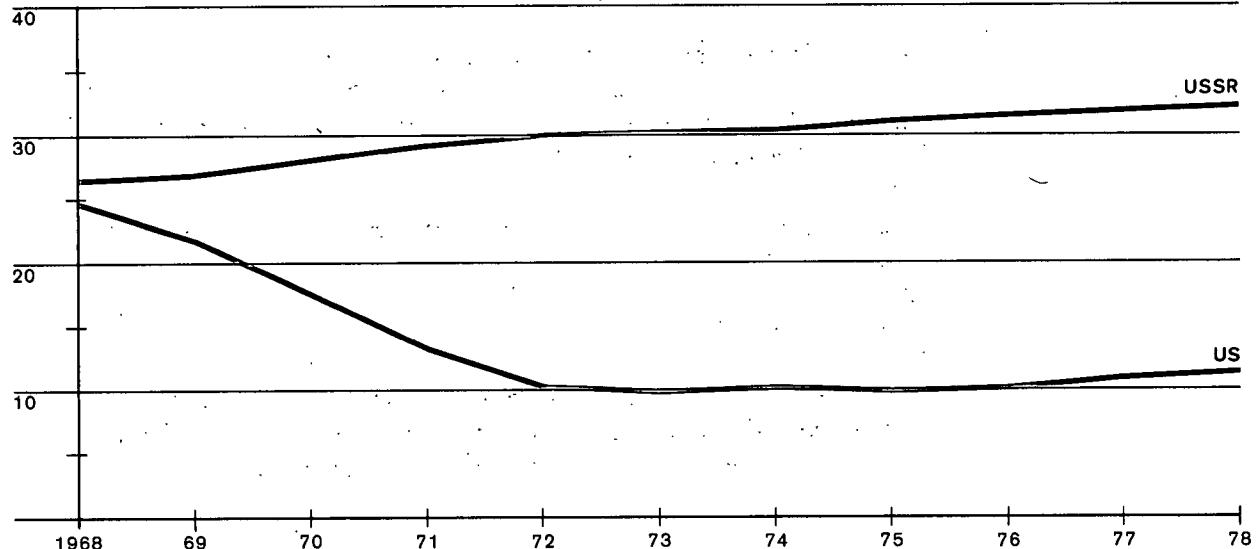
From 1968 to 1975, US outlays for land forces fell by 60 percent because of the withdrawal from Southeast Asia. The withdrawal meant a reduction of manpower, a decrease in operations, and a drop in the annual procurement of weapons. Nevertheless, the United States was able to modernize its forces by procuring over the period some 6,700 tanks and about 14,000 other armored vehicles (primarily personnel carriers). After 1975, US outlays began to grow as increases in procurement offset declining personnel costs.

25X1

Secret

40

Secret

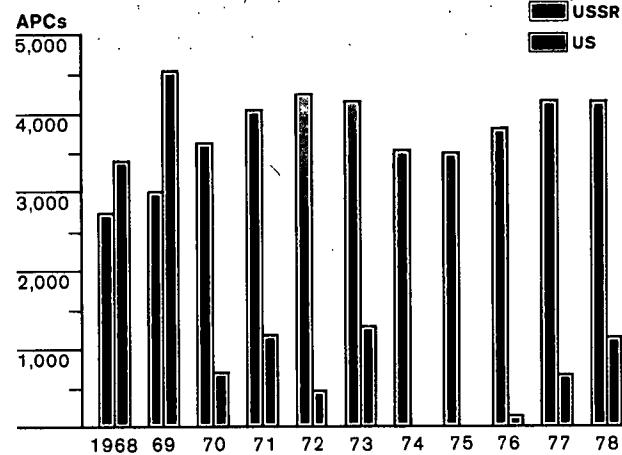
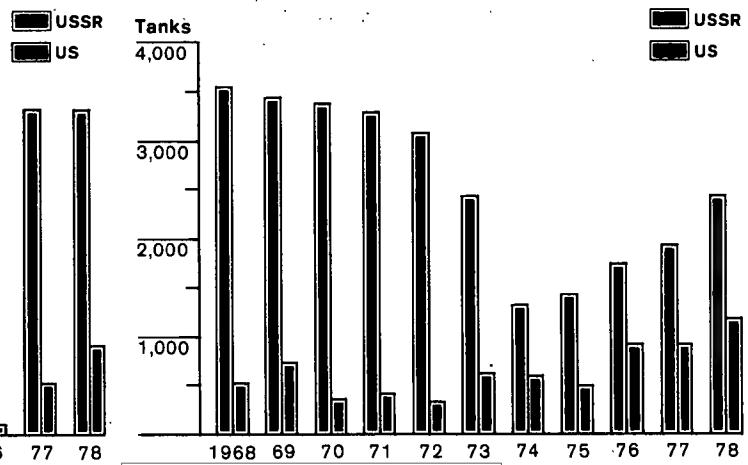
Land Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

Billion 1978 Dollars

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Land Forces												
US	24.5	21.6	17.5	13.2	10.1	9.6	10.1	9.8	9.9	10.8	11.2	148.2
USSR	26.5	26.9	28.1	29.2	30.0	30.2	30.4	31.1	31.5	31.8	32.2	327.7

25X1

Deliveries of Armored Personnel Carriers**Tank Deliveries**

25X1

25X1

580400 10-79 CIA

Secret

Tactical Air Forces

This mission consists of all land- and sea-based fixed-wing aircraft that are used in a combat support role and, on the US side, multipurpose aircraft carriers. (These carriers are included to accord with DPPC definitions.) Helicopters used for ground attack are not included, nor are those aircraft and aircraft carriers which have an antisubmarine mission.

25X1

For the 1968-78 period US total outlays for these forces were more than half again as much as the estimated cumulative dollar cost of comparable Soviet activities. This difference reflects both the larger size of the US tactical air forces, the higher operations level, and the inclusion of the US aircraft carriers.⁵

25X1

US outlays for tactical air forces were more than four times as great as estimated Soviet costs at the beginning of the period but were only 15 percent larger in 1978. This change reflects the decline of US tactical air force activity after the Vietnam war and an increase in Soviet procurement of tactical aircraft.

25X1

Annual US outlays for tactical air forces fell from 1968 to 1974 but then grew slowly until the end of the period.

- Air Force outlays for tactical air forces fell until 1974 but grew quite rapidly from then until the end of the period as A-10s, F-15s, and F-16s were added to the force.
- Navy and Marine outlays for tactical air forces declined until 1972, leveled off briefly, and then fell again throughout the rest of the period.

25X1

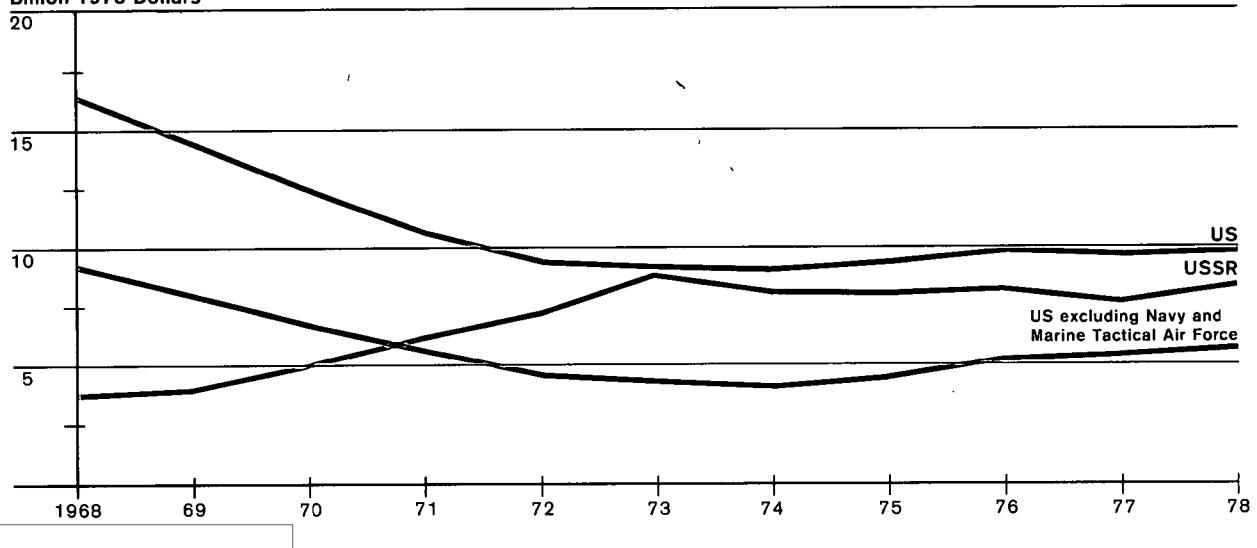
⁵ If multipurpose aircraft carriers and the associated aircraft are excluded, the estimated dollar costs of Soviet tactical air forces were slightly more than the corresponding US total (that is, USAF outlays for tactical air forces) for the period. In 1968 these US outlays were almost three times the estimated Soviet dollar costs; in 1978 the estimate for Soviet forces was 25 percent greater than these US outlays

25X1

Secret

42

Secret

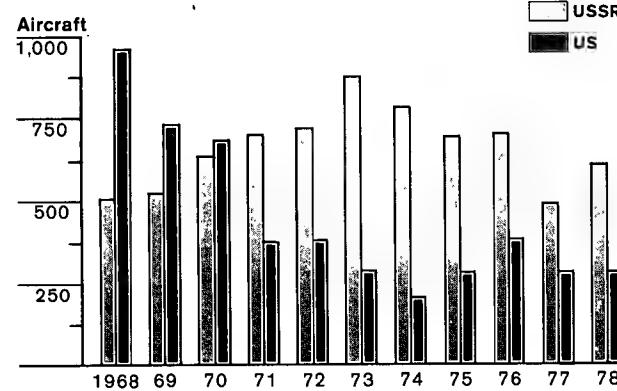
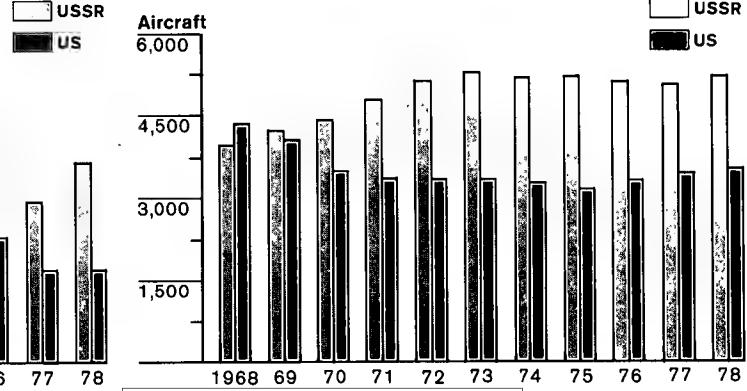
Tactical Air Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

Tactical Air Forces**Billion 1978 Dollars**

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
US												
Air Force	9.2	7.9	6.7	5.6	4.6	4.3	4.1	4.5	5.2	5.4	5.7	63.2
Navy and Marine	7.1	6.5	5.6	5.0	4.8	4.8	4.9	4.7	4.6	4.1	4.1	56.3
Total	16.3	14.4	12.4	10.6	9.4	9.1	9.0	9.3	9.8	9.6	9.8	119.5
USSR												
Total	3.8	4.0	5.0	6.2	7.2	8.8	8.1	8.0	8.2	7.7	8.4	75.7

25X1

Tactical Aircraft Deliveries**Tactical Aircraft Order of Battle**

580401 10-79 CIA

25X1

25X1

Secret

Estimated Soviet dollar costs for tactical air forces showed a steady increase from 1968 to 1973 but fluctuated considerably over the last five years of the period.

- Increases in Flogger, Fishbed, Fitter, and Fencer procurement costs made up most of the increase in the estimated dollar costs of tactical air forces from 1968 to 1973.
- Estimated operating costs increased substantially from 1968 to 1973.
- After 1973 estimated operating costs increased slowly while procurement costs decreased.

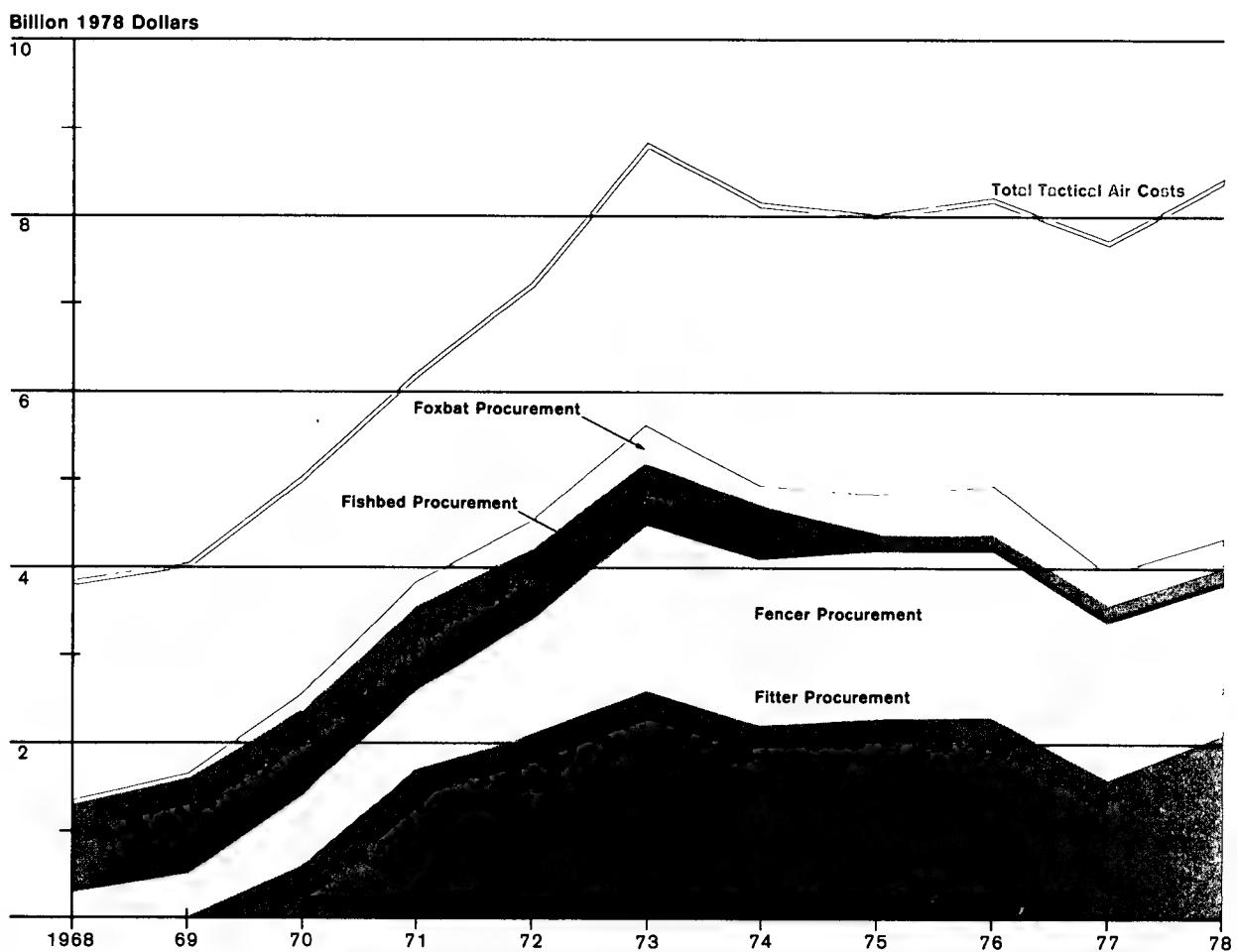
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44

Secret

Estimated Dollar Costs of Soviet Tactical Aircraft Procurement



580402 10-79 CIA

25X1

Secret

General Purpose Naval Forces

Included in the general purpose naval forces are:

- All major (over 1,000 tons) and minor surface combatants.
- Attack submarines.
- Antisubmarine warfare (ASW) aircraft and carriers.
- Amphibious warfare ships.
- Naval forces directly supporting the fleets.

Not included in this category are multipurpose aircraft carriers, which are assigned to tactical air forces, and strategic missile submarines and their associated tenders, which are assigned to strategic forces. [redacted]

25X1

The estimated dollar costs of Soviet naval activity were approximately equal to US outlays for the period. In 1978, however, they were 10 percent greater than comparable US outlays.⁶ [redacted]

25X1

Estimated dollar costs for Soviet naval forces grew only slightly over the entire period. They had actually fallen by almost 15 percent by 1973 but resumed moderate growth after that. US costs also fell until 1973 but displayed erratic growth from then until the end of the period. [redacted]

25X1

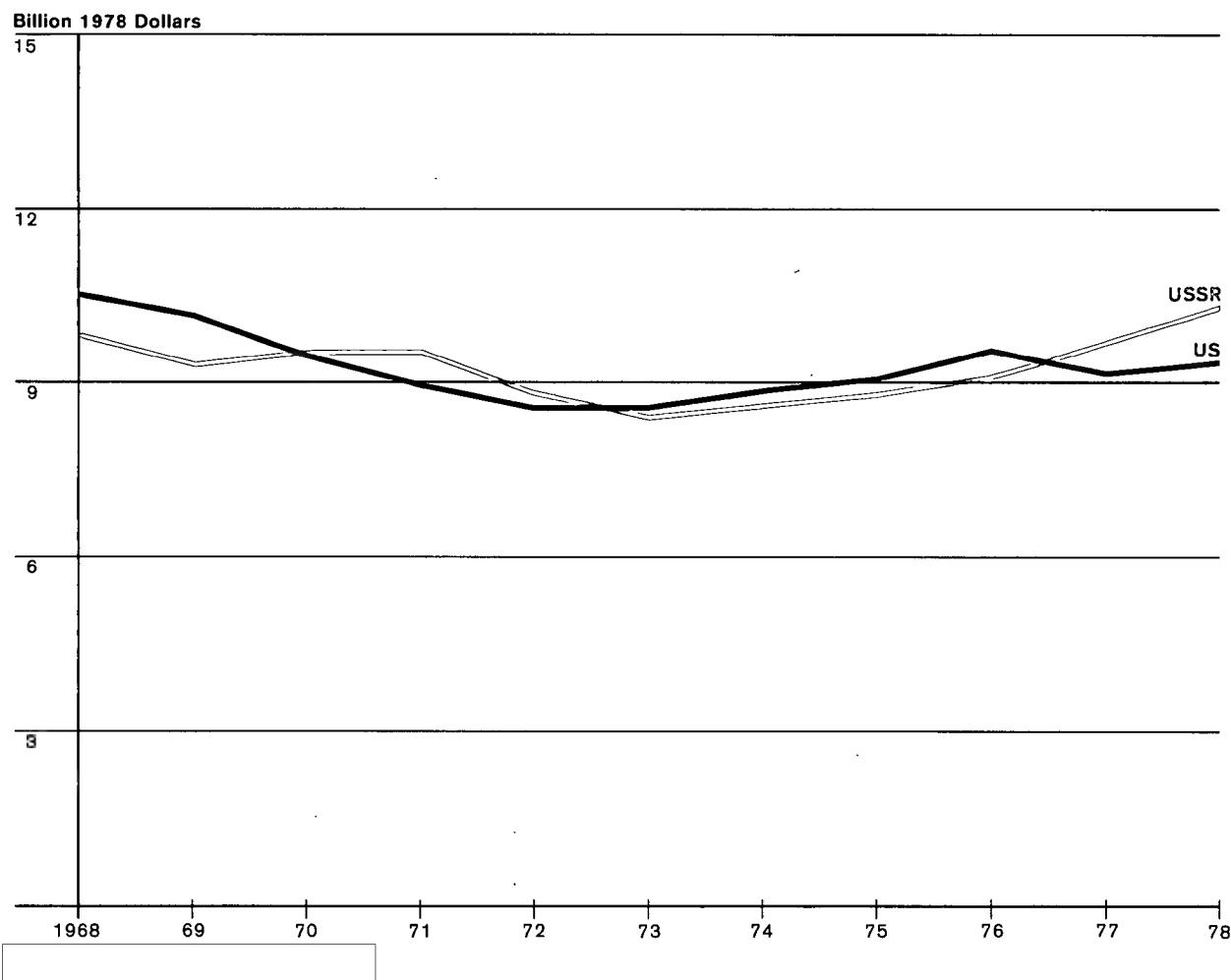
⁶ If the US Navy and Marine tactical air forces missions (which include carriers) and the Soviet Navy's tactical air forces are included with general purpose naval forces, US outlays were almost 45 percent greater over the entire 11-year period. In 1978 they were over 15 percent larger than estimated Soviet dollar costs [redacted]

25X1

Secret

46

Secret

General Purpose Naval Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities**

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
General Purpose Naval Forces												
US	10.5	10.1	9.4	8.9	8.5	8.5	8.8	9.0	9.5	9.1	9.3	101.5
USSR	9.8	9.3	9.5	9.5	8.8	8.4	8.6	8.8	9.1	9.7	10.3	101.9

25X1

Secret

During the period, Soviet general purpose naval forces underwent modernization, including the procurement of:

- Almost 150 major surface combatants, including three ASW carriers.
- Over 80 attack submarines.
- Nearly 530 ASW aircraft.

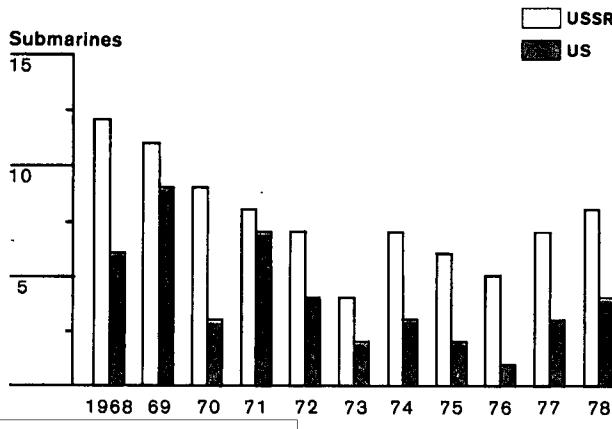
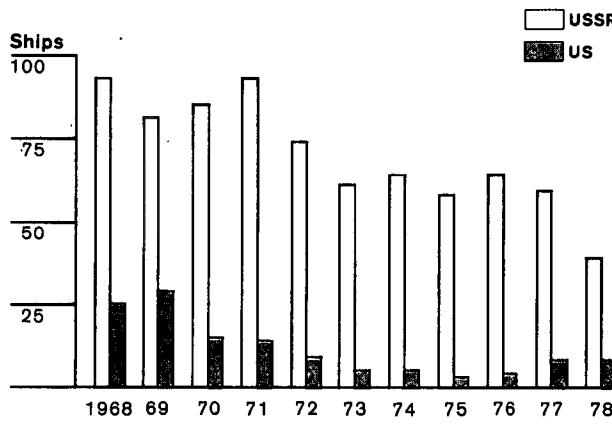
25X1

US general purpose naval forces also underwent considerable modernization through procurement of nuclear-powered attack submarines and cruisers as well as conventionally powered destroyers and frigates. The retirement of older ships, however, resulted in a large net decrease of most ship types.

25X1

US naval shipbuilding stressed major surface combatants, while most new Soviet ships were minor surface combatants.

25X1

Attack Submarine Deliveries**Surface Combatant Deliveries**

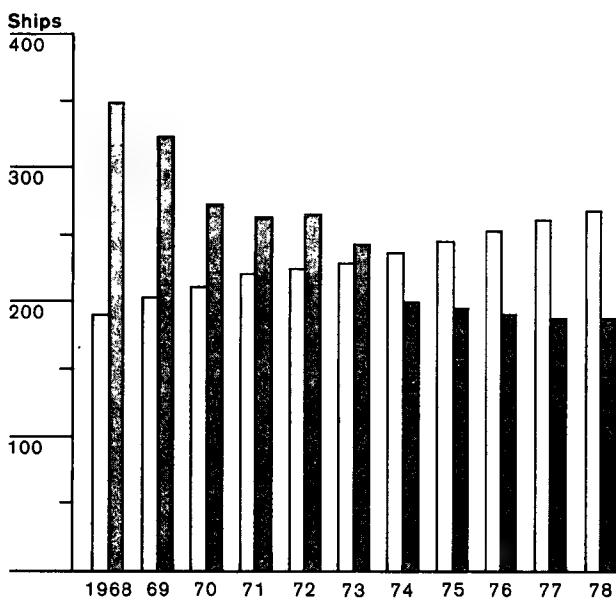
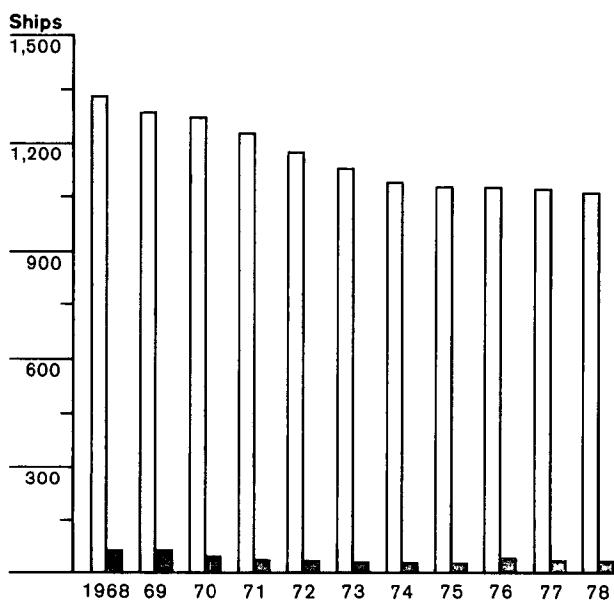
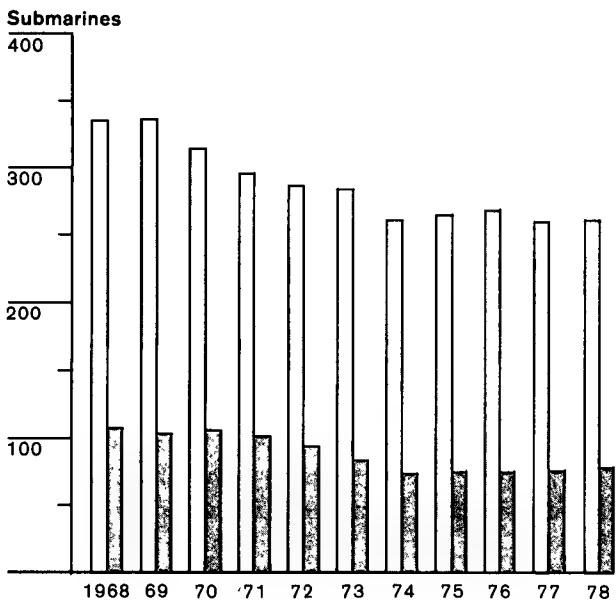
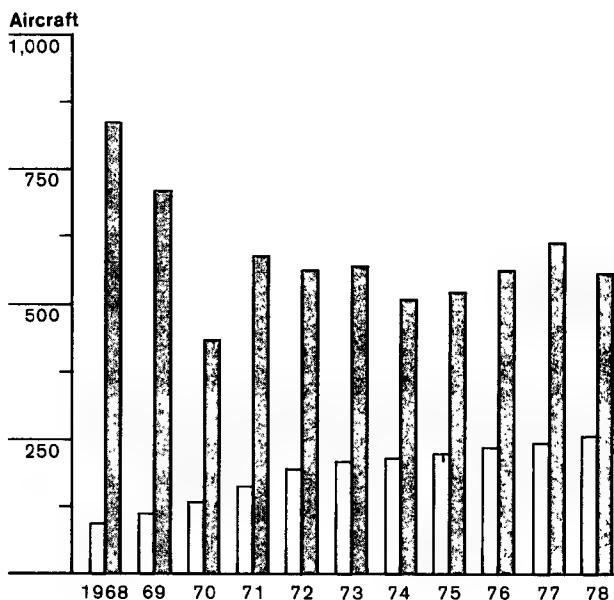
580506 10-79 CIA

25X1

Secret

Secret**Order of Battle Data**

USSR
 US

Major Surface Combatants**Minor Surface Combatants****Attack Submarines****ASW Aircraft**

580404 10-79 CIA

25X1

Secret***Mobility Forces***

The mobility mission of general purpose forces presents special definitional problems. According to DPPC definitions it includes airlift, sealift, and operation of port terminals—a relatively minor US Army activity. We have not been able to identify a separate Soviet sealift mission, however, so all Soviet sealift is included in the general purpose naval forces (see the previous section). We believe the dollar cost of this activity is relatively small.

25X1

Another problem relates to US accounting procedures. A number of US mobility services are sold to other US defense organizations, and the mobility mission as defined by the DPPC does not reflect the costs associated with these self-financing mobility services. When these "hidden" mobility costs are included, US outlays for the mobility mission are substantially more. In this section, to illustrate the true scope of the US mobility mission, we have arrayed the data so as to show the real total cost of all mobility programs. (In every other section of the paper, the mobility mission is shown without these "hidden" costs.)

25X1

For the 1968-78 period, US costs of the mobility mission were more than twice the estimated Soviet costs in dollar terms. In 1978, US costs were 30 percent more.

25X1

Thus, in contrast with many of the other comparisons in this paper, the costs of the US mobility mission generally exceed corresponding Soviet dollar costs. This occurs because the United States, with its many overseas bases and a need to supply those bases by sea and by air, has a much greater need for a mobility mission than the USSR. In the 1968-72 period this was particularly true—a large part of the mobility outlays were for transporting troops and supplies to Vietnam. The USSR, with few troops stationed in territory outside the USSR or Eastern Europe, probably has a considerably smaller mobility mission. We do not count any rail transport in the USSR, however, and that may cause an understatement of USSR mobility activities.

- The trends in the mobility missions of the two countries have been in opposite directions.
- Estimated dollar costs of the Soviet mobility mission (that is, airlift) have grown by 25 percent over the period.
- Costs of the US mobility mission have fallen by 65 percent from their Vietnam-era high in 1968.

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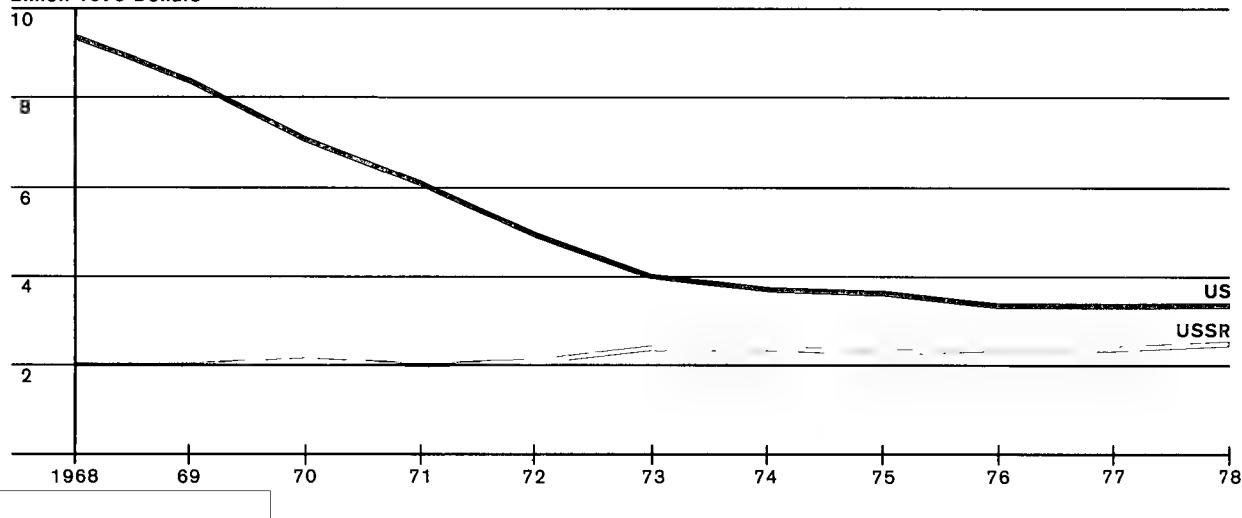
The growth of the Soviet airlift mission reflects the acquisition of new and more modern aircraft. Over 1,000 fixed-wing transports were procured over the 11-year period. During the same time span, the US acquired approximately 350 aircraft.

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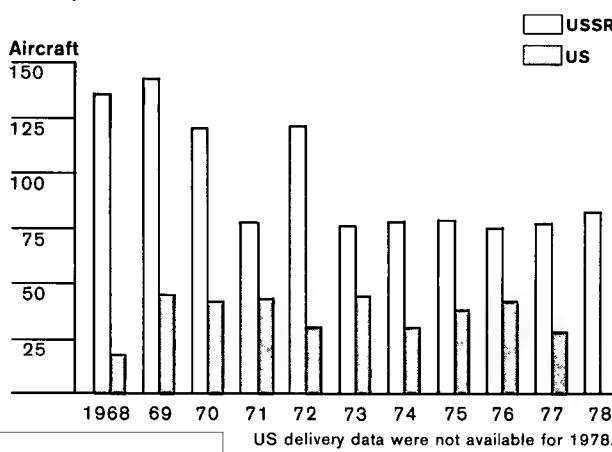
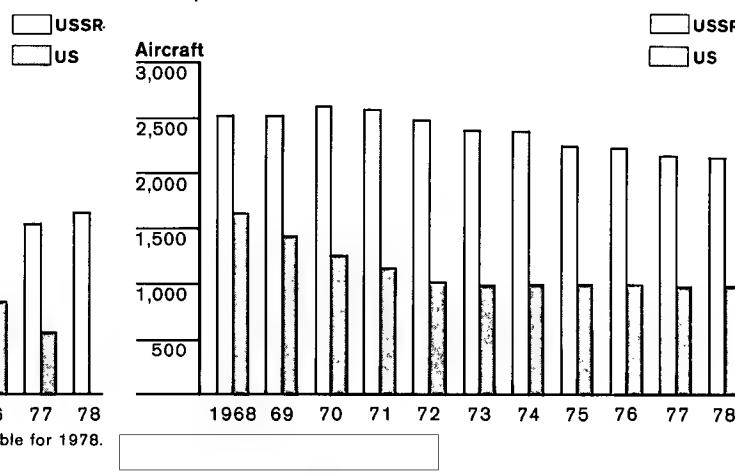
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Mobility Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

Mobility Forces Billion 1978 Dollars	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
US												
Airlift	6.0	5.5	4.9	4.3	3.3	2.7	2.5	2.4	2.3	2.3	2.2	38.5
Sealift	3.4	2.9	2.2	1.8	1.6	1.3	1.2	1.1	1.0	1.0	1.1	18.7
Total	9.4	8.4	7.1	6.1	4.9	4.0	3.7	3.6	3.3	3.3	3.3	57.2
USSR												
Total	2.0	2.0	2.1	2.0	2.1	2.4	2.4	2.3	2.4	2.4	2.5	24.7

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Transport Aircraft Deliveries**Transport Aircraft Order of Battle**

25X1

580405 10-79 CIA

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Support Forces

The support mission is essentially a catchall category that includes any activity not already covered elsewhere.⁷ Some of the defense activities not financed by the Department of Defense are also included in this mission. [redacted]

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Thus, the support mission includes military space programs, portions of the US Coast Guard, Soviet Border Guards, major headquarters, all logistic support activity, military personnel assigned to civil defense and military assistance programs, as well as all other activities normally considered support. [redacted]

25X1

Over the 1968-78 period US outlays for support forces exceeded the estimated dollar costs of Soviet support forces by 40 percent. By 1978, however, estimated Soviet dollar costs were almost equal to US outlays. [redacted]

25X1

US support forces fell every year from 1968 to 1978, decreasing by almost 35 percent over the 11-year period. This decline was caused primarily by the withdrawal from Southeast Asia and the concomitant reduction of US military personnel. The Central Logistics and Individual Training categories of support led the decline. [redacted]

25X1

Estimated dollar costs for Soviet support forces increased every year of the period. The total increase, over 30 percent, kept pace with the growth of the other missions and reflected the increase in manpower and the growth of the inventory of sophisticated military equipment. [redacted]

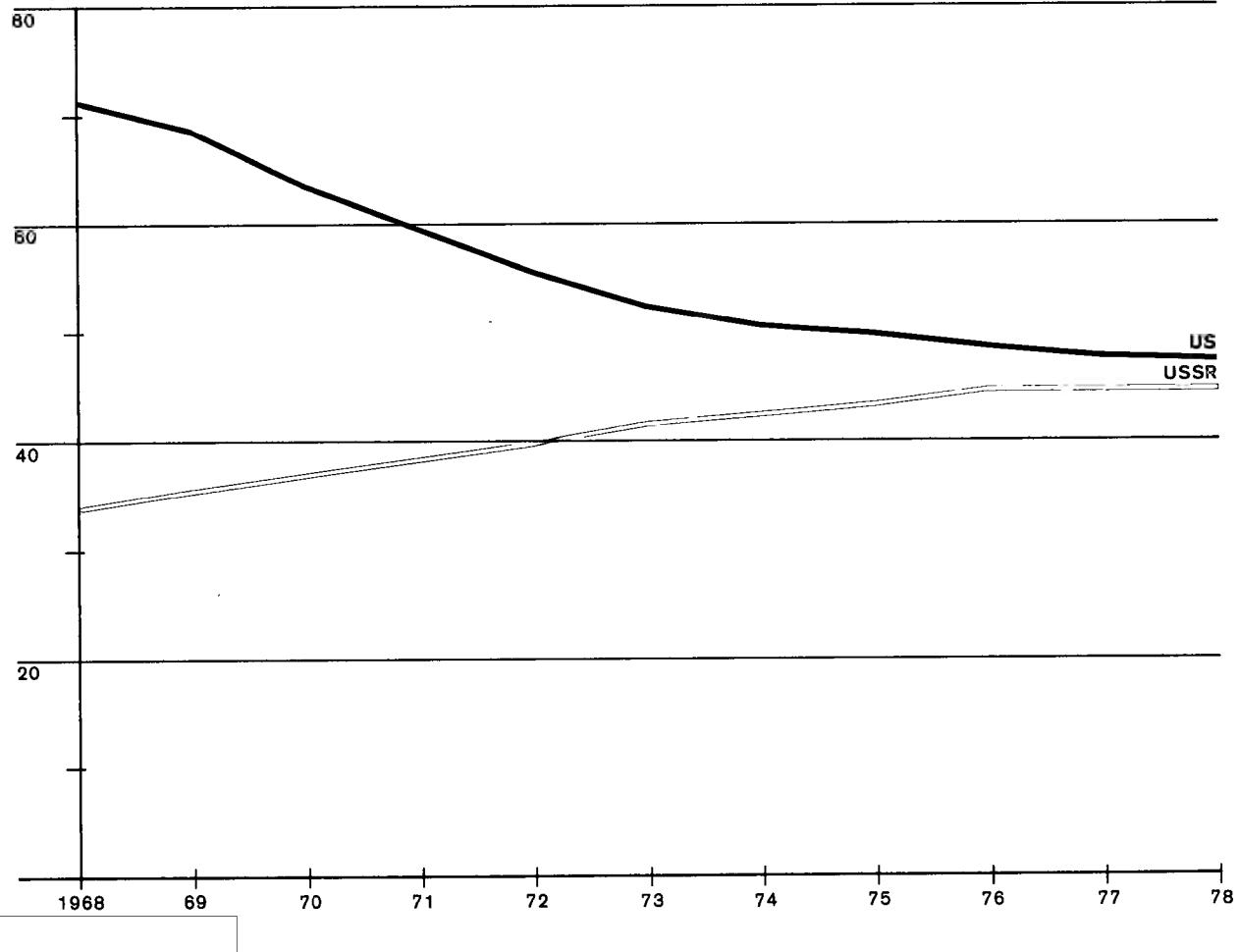
25X1

⁷ The exact DPPC categories included are Support Activities, Auxiliary Activities (except RDT&E), Individuals, and Miscellaneous. [redacted]

25X1

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Support Forces**A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities****Billion 1978 Dollars**

25X1

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	Cumulative
Billion 1978 Dollars												
Support Forces												
US	71.5	68.8	63.7	59.7	55.7	52.4	50.7	50.0	48.7	47.8	47.6	616.5
USSR	34.0	35.5	36.9	38.3	39.8	41.7	42.5	43.4	44.7	44.8	44.9	446.5

25X1

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Military Manpower

The manpower comparisons in this section are designed to cover the same defense planning and programming categories as the preceding dollar cost comparisons.

- On the Soviet side, this comparison includes men in the USSR's Ground Forces, Air Forces, Air Defense Forces, Navy, Strategic Rocket Forces, the Border Guard of the Committee for State Security, and the national command and support structure.
- On the US side, the manpower number includes all members of the US armed forces and the Coast Guard.⁸

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Only personnel who fill what in the United States would be considered national security roles are included. Thus, we do not include in the USSR manpower total the personnel assigned to militarized security forces of the Ministry of Internal Affairs and Military Construction and Transportation Troops (over half a million men).

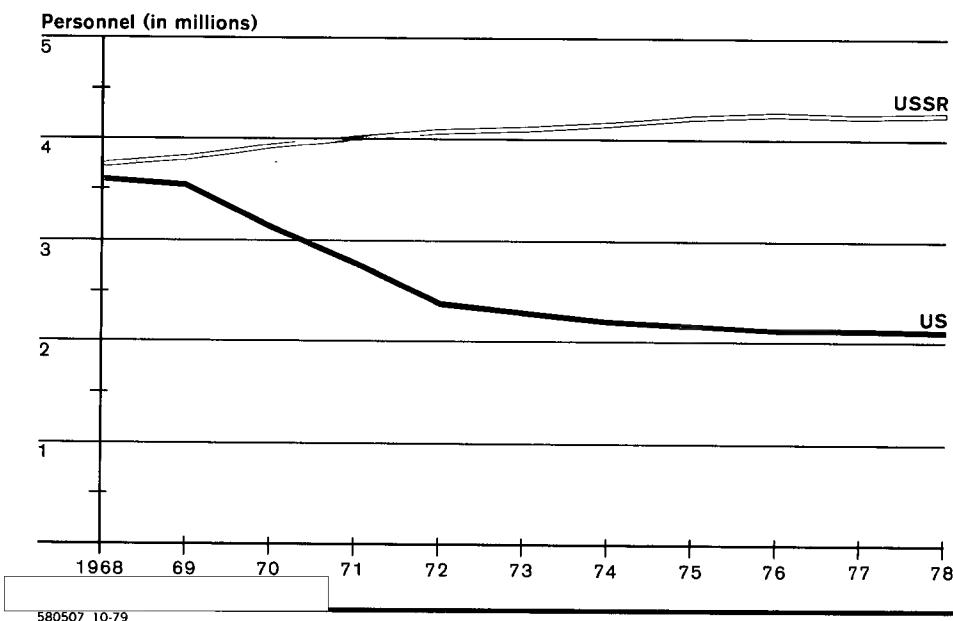
25X1

⁸ This results in a slight overstatement for the United States since only those personnel in the Coast Guard with a military mission should be counted.

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Total Military Manpower



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Over the past 11 years military manpower trends have paralleled those for total costs in the two defense establishments.

- Estimated Soviet military manpower grew by over 500,000 men between 1968 and 1978.
- The level of US military manpower fell steadily from the peak of the Vietnam buildup in 1968 to 1976 and has been stable since then. [redacted]

25X1

The largest increase for the USSR—nearly 300,000 men—occurred in the Ground Forces, although the Air Forces experienced the greatest percentage growth, averaging nearly 2.5 percent per year. [redacted]

25X1

Geographically, about half of the overall Soviet growth was in units estimated to have missions against China. Our estimates of manpower associated with these units rose from between 400,000 and 450,000 in 1968 to between 675,000 and 725,000 in 1978. The share of Soviet military manpower devoted to these missions rose from about 11 percent in 1968 to about 16 percent in 1978. [redacted]

25X1

Mission Comparisons

Despite dissimilarities in the structures of the US and Soviet forces which make organizational comparisons misleading, the allocation of manpower to military missions can be roughly compared by applying the definitions of the *US Defense Planning and Programming Categories* to military units of each country. [redacted]

25X1

US and Soviet Military Manpower in 1978

Estimates in Thousands

	US	USSR
Strategic offensive forces	80	240
Intercontinental	80	100
Peripheral	0	140
Strategic defensive forces *	20	370
General purpose forces	950	1,820
Support forces **	1,040	1,830
Total	2,090	4,260

* Includes men assigned to the strategic command and warning mission.

** Includes military personnel in the RDT&E and space missions.

[redacted] 25X1

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The manpower table highlights several differences between US and Soviet military missions.

- The Soviets have a large peripheral strike mission. To support this mission, a total of 140,000 men are assigned to units operating the medium- and intermediate-range ballistic missiles of the Strategic Rocket Forces, the medium-range bombers of Long Range Aviation, and the older ballistic missile submarines of the Navy.
- The Soviets have a major commitment to defense against air and missile attack. Approximately 289,000 men work in positions directly associated with the operation of interceptors, surface-to-air missile systems, and antiballistic missiles.
- Soviet general purpose forces are nearly twice the size of their US counterparts. This difference is primarily the result of the dissimilarity in numbers of men assigned to land warfare missions. [redacted]

25X1

On the other hand, there are similarities in the shares of manpower allocated to the missions noted above.

- Intercontinental attack forces require relatively little manpower in either country—approximately 5 percent of the US total and less than 3 percent in the USSR.
- Support forces take about 50 percent of US military manpower and nearly 45 percent of Soviet manpower. [redacted]

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Rank Structures

Another means of comparing US and Soviet military manpower is by the distribution of rank among military personnel. This comparison takes into account dissimilarities in the military personnel systems of the two countries:

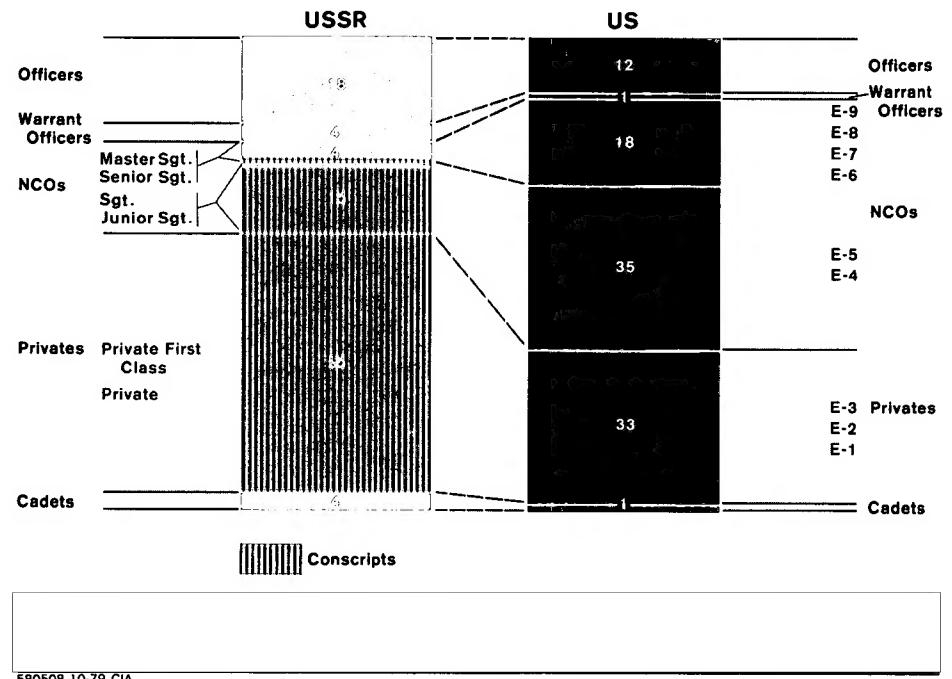
- The Soviets rely on conscription to procure most of their military personnel, whereas the United States relies on voluntary enlistments.
- In the Soviet Union the pay and benefits provided to career military personnel differ sharply from those of conscripts, but in the United States these differences are minor.
- Soviet officers perform many tasks which in the United States would be accomplished by senior NCOs and civilians.
- The Soviets rely mainly on full-time military schools to provide officers, whereas the United States is heavily dependent on ROTC programs and officer candidate schools. [redacted]

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The results of these differences are reflected in the following chart:

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Secret**Distribution of Soviet and US Military Personnel in 1978**

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